ASL

Australian Society for Limnology Inc.

NEWSLETTER

Volume 40 #2

June 2002

Registered by Australia Post

Print Post Publication No. PP 381667/00125

ABN 54 606 483 226

ISSN 1037-2512

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 650 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

EXECUTIVE OFFICERS 2001-2002

President
Dr Jane Chambers
Environmental Science, Murdoch University, Murdoch WA 6150
Ph: 08-9360 2739, Fax: 08-9310 4997, Email: chambers@essun1.murdoch.edu.au

Vice-President
Dr Andrew Boulton
Ecosystem Management, The University of New England, Armidale NSW 2351
Ph: 02-6773 3760 Fax 02-6773 2769, Email: aboulton@metz.une.edu.au

Immediate Past President
Dr Pierre Horwitz
Centre for Ecosystem Management, Edith Cowan University, Joondalup WA 6027
Ph: 08-9400 5558, Fax 08-9400 5717, Email: p.horwitz@cowan.edu.au

Secretary
Dr Richard Marchant
Museum of Victoria, GPO Box 666E, Melbourne VIC 3001
Ph: 03-8341 7433, Fax 03-9416 0475, Email: rmarch@mov.vic.gov.au

Treasurer/Membership Officer
Mrs Margaret Hart
PO Box 605, Mulgrave VIC 3170
Ph: 03-9545 3549, Fax: 03-9545 3549, Email: margaret.hart@sci.monash.edu.au

CONTENTS

CONTENTS	3
EDITORIAL	5
PRESIDENT'S REPORT	6
COPY OF LETTER SENT BY ASL TO GOVT. MINISTERS	7
THE ASL CONSTITUTION	9
ASL TELECONFERENCE, 14 MARCH 2002	10
CHARTERING NEW WATERS: PETER CULLEN LEAVES THE CRCFE	12
SCUTTLEBUTT, RUMOUR AND A BIT OF PRATTLE	14
Centre for Catchment and In-Stream Research, Griffith University	**14**
WSL Consultants - Aquatic Ecology	**15**
National Centre for Tropical Wetland Research	**16**
Freshwater Ecology Laboratory, Central Queensland University	**17**
Ecosystem Management, University of New England	**18**
Centre for Water Research, Dept. of Env. Eng. UWA	**19**
Murray-Darling Freshwater Research Centre	**21**
CRC for Freshwater Ecology	**22**
CONFERENCE UPDATE	27
A POSTCARD FROM THE FREE MARKET	28
INFORMATION FROM AND FOR MEMBERS	30
FASTS	41
ARTICLES	51
BOOK REVIEW	55
FORTHCOMING CONFERENCES/WORKSHOPS	57
ASL VOLUNTEERS	60
ASL MEMBERSHIP FORM	63
ELECTRONIC NEWSLETTER APPLICATION FORM	65
REGIONAL EXECUTIVE MEMBERS 2001-2002	66
EDITORIAL ADDRESS	66

Material for publication in the **Volume 40#3 Issue** of the Newsletter should be sent to the Editor (Address on back page) by **Friday 30th August 2002.**

Volume 40 # 4 contributions are due Friday 29th November 2002.

All articles should be forwarded, if possible, as unformatted text on a disk or via email.

ASL Home Page - http://www.asl.org.au/

This Newsletter is printed by Border Multi Print Pty Ltd Wodonga, packaged by Kalianna Pty Ltd and distributed by Australia Post.

Membership Information and a list of the Regional Executive Members can be found at the back of this Newsletter.

FROM THE EDITOR

Greetings once again.

Well another issue appears on your desk – what to do with it now? Place it on the bookshelf with all the other editions, or throw it in your bag to "read at home" – decisions, decisions, decisions.

Thank you for your support and many thanks to the people who have sent news in. It is a little disappointing that there are only eight contributing stories in the 'Scuttlebutt, Rumour and a Bit of Prattle' section – what are the rest of you doing, where have you been? The apathetic cynics among you will probably be grumbling that it's the same old crowd doing the contributing. This can be easily overcome by desisting from the apathy and sending something in – after all, it is **your** newsletter.

See you in Margaret River.

Cheers

Rhonda Sinclair
Rhonda.Sinclair@csiro.au

PRESIDENT'S REPORT

Greetings ASL members! (thought I'd go for the heraldic approach this time rather than the usual G'day). Hopefully you are starting to see our ASL 'Limnology' poster up and around the place. If this is not happening at your workplace please contact Megan McGuire at [mcguire@essun1.murdoch.edu.au], our indefatigable publicity officer who has been doing a great job. We have sent out emails to contact people at each organisation but not all of these have got back to us. We are keen to get the posters out and seen, not clogging Megan's office. Similarly if you need some ASL brochures for an upcoming conference or event, contact Megan.

We were very sorry to lose our recently appointed Northern Territory rep on the Executive, Frederick Bouckaert, who was whisked away to Canberra. Frederick was very active during his short time on the Executive - thanks Frederick. And welcome Naomi Rea, who has kindly agreed to be the NT rep at short notice. Naomi's contact details are at the back of the newsletter for any NT'ers wishing to contact her.

At the last ASL Congress a motion was passed to send a letter to government regarding the reallocation of efficiency savings from irrigation in the Murray Darling Basin. I am pleased to say that this has got a good response from all ministers to whom it was sent and Terry Hillman is now contributing to responses from Federal, Vic and NSW ministers. The letter sent from ASL can be found on page 7 of this newsletter. Thanks to Terry, Michael Shirley and other Exec members for their contributions to drafting this letter.

The registration form for the congress at Margaret River should have fallen in your lap as you opened this newsletter. Registration is available at the ASL website also (thanks Simon). Hopefully the thought of those luverly vineyards, wildflowers, glorious beaches and of course, exceptional limnological opportunities of Margaret River will entice to you to join us. This year's theme is something a little different. We are going to run sessions based on the nine critical challenges for aquatic systems in Australia identified by ASL. We are asking you to check out the webpage http://www.asl.org.au/asl_poldoc_challenges.htm and suggest to which area your paper makes a contribution. The sessions will then provide a snapshot of our understanding in each of these areas, hopefully highlighting our knowledge and areas where more needs to be known. From this we shall draw up a discussion paper for the newsletter.

This Congress will be my last as President and see the election of a whole new Executive. There is a notice regarding this on page 9. The new term for all office bearers is two years. So we would welcome nominations for all offices in the Executive at the Congress at Margaret River. Please forward your nominations to me or bring them along to the Congress.

That's all from me for now- see you at Margaret River!

Cheers, Jane (31st May 2002)

COPY OF LETTER SENT BY ASL TO GOVT. MINISTERS

ΛSL

Australian Society for Limnology Inc.

Re: The reallocation of efficiency savings from irrigation in the Murray Darling Basin

Dear Minister,

The Australian Society for Limnology is a scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 500 scientists, managers, engineers, teachers and tertiary level students from all states and territories. The charter of the ASL is to further our understanding of Australia's inland waters, and to promote its wise use and sustainable management. As President of the Australian Society for Limnology I am writing on behalf of our membership to bring to your attention a critical issue for freshwater resource management in the Murray-Darling Basin; the commitment of irrigation water savings to support further irrigation development.

The level of diversions in the Murray-Darling Basin's river systems and the consequent changed flow regimes came under increased scrutiny in the 1990's when it became clear that the rivers were under stress, the most visual symptom being the extensive toxic blue-green algal blooms. In 1994, the Council of Australian Governments (COAG) agreed to introduce a strategic framework to achieve an efficient and sustainable water industry. To realise this, COAG recommended the introduction of a comprehensive system of water allocations including the determination of clearly specified water entitlements, the provision of water for the environment and water trading arrangements (ARMCANZ, 1996).

In the past few years some sections of irrigated agriculture, notably wine grapes and other perennial crops, have been able to introduce substantial water-use efficiencies through improved technology and applied science. The water supply corporations are in the process of selling on these savings, plus sleeper licenses, to support new irrigation ventures, for example Deakin Estate in Northern Victoria.

Whilst this activity clearly fits within the requirements of the 'Cap' on diversions in the Murray-Darling Basin it does exacerbate problems in the future, particularly if allocations under the Cap are to be lowered. The probability is that any 'claw-back' of water is likely to be applied across the whole irrigation industry of the Murray-Darling Basin. Irrigators who have already introduced efficiencies, and are using the minimum amount of water needed to support their enterprise, will be at a disadvantage compared to less efficient users.

The membership feels that it was important to point out that re-allocation of water from sleeper licenses and efficiency savings to other active users at this time could have implications in the medium term. If the 'Cap' were to be reduced there would be hardship and potentially some form of compensation required in the future. We would suggest that some form of moratorium might be preferable to greater social disruption and public expenditure.

There are a number of potential solutions including placing the water savings in a notional 'water bank' until the level of the 'cap' is stabilised. These may then be used as credit against further reductions. Such water might be 'loaned' to other users, including new developments, on the understanding that it might be called upon as a matter of priority in the case of future allocation reductions. This would be a fair and equitable system, rewarding those who make savings in irrigation uses, whilst retaining the ability to meet further reductions in the cap on extractions in the basin.

If this continued allocation of water resources is not addressed now across the Murray-Darling Basin, future improvements in provision of water for the environment will become unnecessarily difficult. The Australian Society for Limnology would welcome the opportunity to discuss these issues with you further. Please contact our spokesperson for this issue: Dr Terry Hillman (phone 0401 690 121 email address: hillman.albury@bigpond.com).

Yours sincerely,

Dr Jane Chambers
President
Australian Society for Limnology

Postal address for President:
Environmental Science, Murdoch University, Murdoch, WA 6150

THE AUSTRALIAN SOCIETY FOR LIMNOLOGY INCORPORATED CONSTITUTION

Extracted from the ASL web page:

8. MANAGEMENT

The Society shall be managed by an Executive Committee consisting of the President, the immediate Past President (ex officio), the Vice President, the Secretary, and the Treasurer/Membership Officer, together with not less than five and no more than eight other Committee Members, all of whom shall be elected at the Annual General Meeting. The position of Secretary and Treasurer/Membership Officer may be held by the one person. This Executive Committee shall implement the Society's general business, and a simple majority shall decide all questions at Executive Committee Meetings.

All positions for the Executive and Regional Executive Members are now open for nominations.

Members will be elected at the AGM at the Margaret River Congress.

ASL TELECONFERENCE, 14 MARCH 2002

Apologies: M. Shirley, D. Nias, S. Josey

Present: A. Boulton, J. Chambers, F. Bouckaert, R. Sinclair, P. Horwitz, P. McEvoy, M. Hart, M. McGuire, R. Marchant

1. Brochures and posters: After discussion it was decided to send out posters to universities with limnology programmes and research institutes (CSIRO and state govt) with freshwater interests. The preference was to send posters to individuals at these localities who could then follow up by handing out brochures to those who wished to join the society. It was estimated that the shelf life of the material was 2-3 years. Thus the bulk of it should be distributed fairly quickly but some should be kept in reserve. M. Hart was willing to post out material provided she was given names and addresses of recipients.

2. 2002 Congress: M. Hart will send a copy of congress rules and advice to J. Chambers and M. Lund. A lecture to honour Prof Bill Williams was discussed and there was agreement that this would occur in 2002 as a one-off event. A decision to continue with this event would depend on audience response. The student mixer at the beginning of the congress needs an organiser as A. Boulton will be unable to attend the meeting. M. McGuire volunteered to do this and will liaise with A. Boulton. The executive approved A. Boulton's election as the next ASL president. There was some discussion about nominations for the next vice-president and it was agreed to call for nominations via a notice in the newsletter.

3. 2003 Congress: The executive approved the dates (1-5 Dec 2003) and venues (Warrnambool Performing Arts Centre and Deakin University) as set out in B. Robson's recent letter. M. Hart noted that conference finances should go through the society's rather than the university's books.

4. Murray Darling letter to Federal Government: The draft that had been edited by M. Shirley was approved.

5. Award committee members: More women are needed on these committees. A. Boulton suggested S. Schreiber and was asked to approach her on this matter. All nominations for both the ASL medal and the young achiever's award should be sent to J. Chambers.

6. Adobe writer: There was unanimous agreement that R. Sinclair could buy this software.

7. NT executive position: F. Bouckaert will be leaving the NT soon and a replacement is needed. N. Rea was suggested and J. Chambers will contact her to get her agreement.

8. Publicity officer: M. McGuire volunteered for this position. M. Hart will send her an electronic copy of the membership database.

9. Policy documents: The salinity document is in late draft stage. There was some discussion about how to raise the profile of these documents among the members. A. Boulton suggested that a potential document could begin life as a workshop at a congress.

10. Science meets parliament day: This year the event will be held on 12 and 13 November. It was suggested that the ASL could fund a couple of members to attend. However, it was felt that members should be targeted for this exercise and that a younger member (perhaps the winner of the young achiever's award) should be encouraged to go.

11. Budgets: M. Hart recommended that conference organisers must allow for credit card costs to be incorporated into conference budgets. Such costs can amount to $800 and need to be covered.

CHARTING NEW WATERS: PETER CULLEN LEAVES THE CRCFE

"I've always loved water, it's been a constant thread through both my personal, recreational and professional life. I'm passionate about it."

Peter Cullen, Professor of Resource and Environmental Science at the University of Canberra and founding Director of the CRC Freshwater Ecology, steps down this month as Chief Executive of the CRC for Freshwater Ecology, a position he has held since its establishment in 1993.

A graduate in agriculture and education from the University of Melbourne, Peter was quick to immerse himself in the art of teaching. From 1973 through to his appointment in 1987 as Dean of Applied Science at the University of Canberra, Peter inspired many students to chose a career in natural resource management and was instrumental in establishing one of the country's first aquatic science courses.

A lifelong fascination with water coupled with a strong foundation in agriculture, fostered in Peter a passion for the application of science in better informing natural resource management. While his formal agricultural training had given him an understanding of the fabric of rural communities, he felt it did not adequately deal with the impacts of agriculture on the environment, or indeed, explain how landscapes respond to agricultural activities.

When the opportunity arose to establish the CRC for Freshwater Ecology, Peter and his colleagues seized it. "The idea of a collaborative framework linking research with the water industry was a captivating idea. Industry now view this partnership as vital, and an understanding of ecological issues is critical to the success of many of these organisations. One of the very powerful things about the CRC model is the development of trust and ongoing learning relationships between parties. Industry are able to learn about the needs and culture of research, and scientists are able to learn about industry needs," Peter said.

As President of FASTS (Federation of Australian Scientific and Technological Societies) the peak body representing professional scientists, Peter had enormous influence. He presented the public face of much of Australian science through media activities, as well as talking to many scientific societies and conferences. He also provided major input to PMSEC (the Prime Ministers Science, Engineering and Innovation Council) on salinity and biodiversity issues. As Chief Executive of the CRCFE he has been an influential adviser to federal and state governments and a respected commentator on environmental issues. He has also been influential in persuading governments to address such major issues as dryland salinity, water quality, biodiversity, river health and environmental flows.

Peter's many achievements are reflected in the awards he has received, directorships and membership of numerous boards and committees. Last year he was received the Prime Minister's Environmentalist of the Year Award, and he received the ASL Limnology Medal in 1988.

One of his greatest contributions lies in the area of education and knowledge delivery. As Peter said in a recent interview, "I believe my biggest personal contribution has been in the delivery of knowledge. We understood the need for media and communications to familiarise the public and the professions with what we were doing in the CRC, but this wasn't sufficient. We needed to better advise our stakeholders on a technical level and this led to the evolution of the knowledge broker concept. This strengthened the links between the producers of the knowledge and the users of this knowledge. I believe it has put this CRC ahead of the pack."

For Peter the idea of scientists and industry working cooperatively has been very exciting. "We all bring different skills, and see different opportunities in any given situation, and to see people develop enough trust to come together and share what may seem like unusual ideas, and have those views challenged, is both remarkably productive and insightful. It is productive because it may just jolt your own assumptions and you just might get a glimpse of what that window of opportunity might be."

Peter's rise to one of the most influential positions in the Australian water industry, wasn't planned, rather a series of well-timed opportunities" developed by someone with a sharp intellect and exceptional vision. Peter's commitment to improving the health and sustainability of Australia's waterways is outstanding. He will be missed by all within the CRCFE and we wish him well.

Peter leaves the CRCFE to pursue other opportunities. He will, however, retain an interest in the CRCFE and may be contacted by email at: cullen@lake.canberra.edu.au

SCUTTLEBUTT, RUMOUR AND A BIT OF PRATTLE

CENTRE FOR CATCHMENT AND IN-STREAM RESEARCH, GRIFFITH UNIVERSITY, BRISBANE

Angela Arthington was recently contracted to review the fisheries research programme of the Mekong River Commission, headquartered in Phnom Penh, Cambodia. She visited fisheries and aquaculture research stations in the four riparian countries - Laos PDR, Viet Nam, Thailand and Cambodia, and reviewed research on capture fisheries, reservoir systems and aquaculture of native Mekong species. A plan for future fisheries research in the Mekong basin was presented to the Commission, including genetics of fish stocks, productive basis and fish yield from key habitats, life cycles, migration patterns and recruitment of key species, fisheries co-management systems and protocols for fisheries impact assessment.

Stuart Bunn, **Fiona Balcombe**, **Christy Fellows**, **Claire McKenny**, **Peter Davies** (UWA) and **Stephen Hamilton** (Michigan State University) had so much Easter chocolate they had to work off the extra pounds on Cooper Ck fieldwork. The fieldwork included an experiment that assessed temporal variability in rates of primary production using benthic metabolism chambers as part of the Environmental Flows Initiative project. There was also some additional benthic metabolism and food web data collected from a number of different waterholes across the Cooper Ck catchment for the Dryland River Refugia (DRR) project. All members returned to their pre-Easter playing weights.

The DRR team completed the second Warrego River field trip in April. This trip involved the collection of fish and invertebrate diversity and abundance, primary productivity data and samples for food analysis to complement the first Warrego field trip in September 2001. The team is currently planning spring sampling within the Border Rivers, the third catchment for study in the project.

A large Griffith University contingent are attending the NABS conference in Pittsburgh including **Stuart Bunn**, **Jane Hughes**, **Christy Fellows**, **Wade Hadwen**, **Mick Smith**, **Claire McKenny.** Just to make sure they get the full conference experience, **Wade** and **Mick** then move on to the ASLO conference in Victoria, British Columbia.

Joanne Clapcott is leaving us for the lure of Tasmania's cool weather. **Jo** will be starting a PhD at the University of Tasmania investigating the effects of forestry practises on ecosystem processes in headwater streams. We wish her all the best and hope the weather is kind. **Stephen Balcombe** has submitted his La Trobe University PhD thesis entitled: Resource use by *Hypseleotris* (Pisces: Gobiidae) in the littoral macrophytes of a floodplain billabong. He is looking and feeling much more relaxed these days with only Western Queensland fishies to think about.

Congratulations to **Nick Marsh** (and Bonny) on the arrival of a healthy baby boy.

From

Stephen (Harry) Balcombe

WSL Consultants – Aquatic Ecology

Much of autumn has seen **Danny Vertessy**, **David Bryant** and **Patrick Maiden** sampling the rivers and streams in Victoria as part of EPA compliance monitoring. These ongoing projects have been keeping us busy and we have just begun the lab analyses of the samples. We have also been performing taxonomic analyses for a number of environmental flows projects being conducted around Australia.

The value of the standard biological monitoring work conducted by WSL has recently been enhanced through the secondary use of the data collected. **Patrick Maiden** has recently commenced a wastewater treatment plant monitoring program in Melbourne's outer eastern suburbs. Olinda Creek, which receives the treated effluent, has recently been cleared of exotic riparian vegetation (mostly willows and blackberries) and had artificial riffles and bank stabilising earthworks constructed by Melbourne Water. We anticipate that the data collected in the monitoring program will also allow for an interesting stream rehabilitation case study, using data collected in previous monitoring. As an added benefit of another monitoring program WSL is conducting, we were also able to determine the location and time of an accidental point-source discharge into a creek in South Gippsland. The fish monitoring program which included using bait traps and an electrofisher, determined the extent of fish mortality related to an underground industrial effluent leak.

Gosia Przbylska has been performing the microscope analyses of algae from rivers and billabongs in the Northern Territory. Meanwhile, **Karen Simonsen** and **Anne Chuang** have been processing biofilm samples from the Hunter catchment for the Integrated Monitoring of Environmental Flows project for NSW DLWC.

From

Patrick Maiden

National Centre for Tropical Wetlands

People in Tropical Wetlands, 8 February 2002, Darwin

The National Centre for Tropical Wetlands (nctwr) in conjunction with the Environment Centre of the NT held a half day symposium on this theme in celebration of World Wetland Day. WWD is now celebrated every year in recognition of the finalisation of the text of the Ramsar Wetlands Convention on 2 February 1971, in Ramsar, Iran. Short papers on wetlands and people were presented by scientists, educators, managers, indigenous people, local and national NGOs, and senior policy makers. The idea behind the symposium was to exchange information and showcase the variety of interests in tropical wetlands and make better links between the many players. Thus we concluded with snacks and drinks provided by the NTU-CTWM (a partner in the nctwr).

A field excursion was held the following day complete with an incessant tropical downpour that illustrated the importance of water in our lives! The staff at Window on the Wetlands provided everyone with light entertainment in the form of a puppet show about wetlands - it was great. And we had some presentations by local wetland stalwarts and a BBQ beneath a tin roof as the rain kept falling.

On behalf of the nctwr and its partner organisations in the NT (eriss and NTU), a hearty thank you to all attendees, speakers, organisers, drivers, caterers, guides, puppeteers, etc.

From

Max Finlayson

FRESHWATER ECOLOGY LABORATORY, CENTRAL QUEENSLAND UNIVERSITY

Many changes have occurred at the Freshwater Ecology Laboratory at Central Queensland University. **Trent Attard** and **Dan Hamilaton** have relocated to work in England. **Michael Price** has been working various macroinvertebrate taxonomy projects and helping **Leo Duivenvoorden** with his NPIRD work on the Dawson River. It appears the passive samplers they are using, are working well, recording pesticides in places not found before. **Larelle Fabbro** has returned from a stint with NR&M doing extension work on the NEMP projects and is getting ready to start on an ACARP project looking at minimizing impacts of blue-green algae at mine sites. **Larelle** and **Peter Baker** have been working on an update to their guide to the Cyanoprokaryotes of Australia in time for the next algal workshop in WA in September. The spate of animal deaths in Central Queensland has meant no shortage of samples.

Newcomer **Susan White** is collecting numerous samples of macroinvertebrates, fish, zooplankton and phytoplankton in her Honours project on the limnology of the notorious Lake Elphinstone. Another field trip to the severe blue-green algal blooms at this lake is planned before the end of May. Supervisors **Leo Duivenvoorden** and **Larelle Fabbro** are taking in turns the driving to and from the lake on the old Marlborough horror stretch (possibly one of the most boring roads in Queensland).

Roslyn Howse and **Gaylene Taylor** are both busy writing their Masters theses on acid mine drainage problems of the Dee River ("the most polluted in Australia") and look forward to finishing this year sometime. **Roslyn** keeps coming up with interesting figures on the huge number of invertebrates she has counted.

From

Larelle Fabbro

ECOSYSTEM MANAGEMENT, UNIVERSITY OF NEW ENGLAND

Alas - I shall be overseas very shortly and unable to get goss to you for this issue so will have to save it all for a BUMPER goss for UNE in the next issue!! *(Don't worry, I'll remind you of these words Andrew!).*

Hope all goes well.

Cheers

Andrew Boulton

CENTRE FOR WATER RESEARCH, DEPARTMENT OF ENVIRONMENTAL ENGINEERING, UNIVERSITY OF WESTERN AUSTRALIA

David Hamilton is to take a position as Chair in Lake Management and Restoration at the University of Waikato in New Zealand, commencing July. He has been with the Centre for Water Research for 11 years, commencing initially as a Research Associate. He plans to continue his research in modelling water quality and algal blooms in lakes, and will also initiate field studies on several lakes in the North Island of New Zealand.

Prof. Jörg Imberger visited the University of Waterloo in Toronto in March as part of the Canada Trust/Walter Bean Scholar for 2001-2002 and delivered a talk entitled "Energy flux paths in a stratified lake". During his visit, Jörg spent time with staff and students to discuss collaborative projects. Jörg also travelled to the Freshwater Institute in Winnipeg to deliver a seminar and visit the University of Manitoba. Patricia Ramlal from the Freshwater Institute arranged a site visit to the experimental lakes area in north western Ontario.

Jason Antenucci attended the Enviro2002 Conference in Melbourne in April where he presented a paper entitled "Management strategies for a eutrophic water supply reservoir - San Roque, Argentina". Enviro2002 is the largest environmental congress ever to be held in Australia.

CWR was awarded a contract to apply the one-dimensional water quality model DYRESM-CAEDYM to North Pine Dam in Queensland. North Pine Dam is operated by the South East Queensland Water Corporation and is a major drinking water reservoir for Brisbane. CWR was previously involved in the design of the bubble plume destratification system to control blue-green algal blooms and dissolved metal concentrations in the dam. This current project is aimed at modelling the current system and optimising the operation of the destratifier. In addition, a nutrient and metal budget will be prepared for the dam. The SEQWC is currently seeking to develop management strategies to limit metal and toxic algal biomass hazards in the dam This will include an investigation of the processes that determine nutrient and metal concentrations in the dam together with an assessment of the relative contributions of the sources of nutrients and metals.

Prof. Sally MacIntyre from the University of California, Santa Barbara visited the Centre in May. Sally gave a seminar entitled "Physical-biological coupling in aquatic ecosystems" and another entitled "Variability in lake hydrodynamics due to climate change and wind forcing: Case studies from Toolik Lake, Alaska and Mono Lake, California". She plans to revisit the Centre in October. **Dr David Edgington** from the Centre for Great Lakes Studies and University of Wisconsin also visited the Centre in May. He presented two seminars entitled "The paleoclimate record in Lake Baikal, Siberia: A comparison of measurements of uranium and thorium isotopes and diatoms sediments dating back 200,000 years" and "The long-term horizontal averaging of contaminant signals in Lake Michigan based on measurements of 137Cs in sediment cores."

In May, **Dr Carolyn Oldham** attended the 9th International Symposium on the Interactions between Sediment and Water in Banff, Alberta, Canada. This is a triennial meeting organised by the International Association for Sediment Water Science (IASWS). It was an excellent meeting, with around 130 scientists and engineers from 31 different countries, a perfect size for really getting to know key researchers. While there, Carolyn was elected Secretary/Treasurer of IASWS, and has also volunteered to host the 2008 meeting in Western Australia. The 2005 meeting will be held in Bled, Slovenia.

Kathryn Linge was very happy to finally submit her PhD thesis, "Assessment of Contaminant Availability in a Shallow Wetland" in late April. Since then she has been madly tying up loose ends and applying for jobs. She recently secured a contract working for Tiwest in Kwinana until the end of the year. As well as working at Tiwest, she will continue co-supervising an honours student in the department

Kate O'Brien is preparing to attend the ASLO Summer Meeting in British Columbia, Canada in June to present a paper entitled, "Simple determination of minimum mixing requirements for growth of negatively buoyant phytoplankton populations". Kate is also looking forward to finishing her PhD towards the middle of this year. She has produced two manuscripts from her research so far. Her first paper explores the balance between mixing, growth and sedimentation on phytoplankton populations. Her second paper, which is close to completion, will describe her laboratory studies on the disaggregation of *Microcystis* colonies under turbulent mixing. Kate is returning home to Queensland to take up a lecturing position at the University of Queensland upon completion of her thesis.

For more news from CWR visit http://www.cwr.uwa.edu.au and click on "Splashback"

From

Richard Segal

MURRAY-DARLING FRESHWATER RESEARCH CENTRE

Albury:

Darren Baldwin (MDFRC CLW CRCFE - Albury) is on the Organising Committee for an International Workshop on Organic Phosphorus 2003, to be held at Monte Verita, Ascona, Switzerland, 13 to 18 July 2003 (see flier on page 40).

The other members of the Organising Committee are Emmanuel Frossard, Institute of Plant Sciences, Switzerland (emmanuel.frossard@ipw.agrl.ethz.ch), and Ben Turner, USDA–ARS, Northwest Irrigation and Soils Research Lab, USA (bturner@nwisrl.ars.usda.gov).

Julia Howitt (based at MDFRC) presented a paper at the 9th International Symposium on the Interactions between Sediments and Water at the Banff Springs Hotel, Canada from 5 to 10 May on *"Sediments and Carbon Cycling: Photochemical Interactions Between Suspended Particles and Dissolved Organic Matter"*. Julia is a PhD student supervised by **Barry Hart, Darren Baldwin** and **Gavin Rees.**

Change of email address for staff and students at MDFRC

All staff and students at the MDFRC have new email addresses to conform with the new CSIRO wide email format. The correct format is now Firstname.Lastname@csiro.au

From

Rhonda Sinclair

Lower Basin Laboratory – Mildura:

Network TEN hosted a ½ hour special on river health issues, dedicated to the 2001 MDBC International River Health Conference. The program featured **Ben Gawne** and **Bernard McCarthy** from the Mildura laboratories who acted as mentors for students featured in the program.

Over 600 students and teachers from around the world participated in the three day event, which aimed to raise awareness among participants of river health issues affecting the Murray. Titled "A Murray River" and filmed around Mildura, the program was broadcast on "Totally Wild" on Thursday 21st March.

From

Michelle Bald

COOPERATIVE RESEARCH CENTRE FOR FRESHWATER ECOLOGY

Congratulations to the following scholarship candidates whose awards have been approved by the Scholarships Committee for 2002.

Applicant	Project Title	University	Primary Supervisor
Craig Boys	Habitat used by riverine fish communities in semi-arid regions during low-flow.	UC	Thoms
Shane Perryman	Nitrogen cycling and bacterial bio-diversity in urban Australian streams.	Monash	Hart-Grace
Amina Price	Influence of hydrology on the recruitment of native fishes to the Narran Lakes, north-western New South Wales.	UC	Thoms
Suman Sharma	Genetic structure of aquatic fauna in coastal streams in S.E. Queensland: evidence for past drainage changes.	Griffith	Hughes
Melissa Barrett	Distributions and implication of C3, C4, CAM/SAM species in the Murray Darling Basin as a response to resource/stress limitations of water, nutrients and salinity.	Adelaide	Walker-Ganf
Ernestine Harbott	Use of enzyme activity for characterising organic carbon in Australian freshwater streams.	Monash	Hart-Grace
Ben Cook	Recovery and recruitment of aquatic fauna to rehabilitated streams in south-eastern Australia.	Griffith	Hughes-Bunn
Michael Hammer	Setting a framework for conservation: molecular systematics and conservation biology of small fishes of the Murray Darling Basin.	Adelaide	Walker
Victor Hughes	Hydraulic habitat of inland rivers: the role of large woody debris.	UC	Thoms

Dr **Stuart Bunn** of the CRCFE is currently hosting three visitors, all based at Griffith University. Dr Steven Hamilton and Ms Suzanne Sippel are from the Kellogg Biological Research Station, Michigan University. Steven's main research interests include ecosystem processes, biogeochemistry and aquatic foods. Suzanne specialises in remote sensing and wetland mapping. They can contacted at: s.hamilton@mailbox.gu.edu.au and s.sippel@mailbox.gu.edu.au respectively. Both Steven and Suzanne will return to Michigan in September 2002

Also visiting until December 2002, is Assoc. Professor Timothy Moulton, from the Dept. of Ecology, UERJ, Brazil. Tim specialises in structure and function of tropical rainforest streams and the influence of macro-consumers on these systems. He can be contacted at: t.moulton@mailbox.gu.edu.au.

CRCFE Well Represented at Environmental Flows 2002 Conference, South Africa

The University of Cape Town and Southern Waters Consulting hosted the 'Environmental Flows for River Systems' conference in Cape Town from 2 – 8 March. The conference incorporated the 'Fourth International Ecohydraulics Symposium', and so produced a broad mix of engineering, hydrological, ecological and socio-economic speakers. The CRCFE was represented by six researchers, one knowledge broker (John Whittington) and two students, all of whom bravely endured a week of heckles on cricket and rugby successes in the name of aquatic science.

Angela Arthington gave a keynote address on the restoration of flows in Australian rivers, with a particular focus on the Murray-Darling Basin and coastal Queensland streams. Angela also gave a paper on the Benchmarking Methodology for deriving environmental flow requirements. **Satish Choy** followed up with an account of how the method is being used to establish environmental flow targets for the Burnett Basin. **Stuart Bunn** spoke on aquatic productivity in the Cooper Creek during and following flooding, and the importance of algae for fuelling this boom-bust food web. **Gerry Quinn** spoke on the framework recently developed for establishing a monitoring program for the Narran Lakes system, north-western New South Wales. **Martin Thoms** also gave a paper on this part of the Murray-Darling Basin, examining changes in flow characteristics of the Condamine-Balonne-Maranoa river system and its distributaries since the onset of water resource development. **Glenn Wilson** gave a paper on the use of daily increments in fish otoliths for determining the preferred flow conditions for spawning.

Students **Sam Capon** (Griffith Uni) and **Mark Siebentritt** (Adelaide Uni) both gave presentations from their PhD research on the importance of flooding for structuring floodplain vegetation communities along the Cooper Creek and Lower River Murray, respectively.

The final day of the conference was spent in workshop sessions, covering topics such as the social impact of dams, in-stream hydraulics, river rehabilitation and managing flows for tropical floodplain fisheries. All up, the conference was a well-run and invaluable event which frequently challenged participants to undertake their research in an integrated and multidisciplinary manner. Full details of the program and abstracts can be downloaded from www. southernwaters.co.za.

"Note, that the next major international conference on environmental flows - the 9th International Symposium on Regulated Streams - is being organised and sponsored by the CRCFE. The conference will be held July 6-11 2003, with the venue to be Echuca-Moama. The First Announcement will be circulated to all ASL members in early July. For details before then, please contact organising committee chair, Martin Thoms, via the conference email address (rivers03@lake.canberra.edu.au)".

Fish Rehab Project Seeking Information

The Arthur Rylah Institute, Freshwater Ecology group is currently working on an NHT funded Murray-Darling 2001 FishRehab project titled, "The potential spread and impact of the alien fish Oriental Weatherloach, *Misgurnus anguillicaudatus*". The project includes the following aims:

- Define the potential risk and impacts of the Oriental Weatherloach to the aquatic ecosystem in the MDB.
- Define factors influencing the spread of Oriental Weatherloach within the MDB.
- Document the rate and pattern of spread of Oriental Weatherloach.
- Scope potential pest species management strategies for containment, reduction or eradication
- Identify knowledge gaps and priorities for research and management.

- Increase awareness of the species within the basin with community groups, government agencies such as fisheries and water managers, other basin users, and the aquarium industry, and
- Develop a program to allow for community input in monitoring the future spread of Oriental Weatherloach in the basin.

We are currently seeking information from natural resource managers and interested groups to determine where Oriental Weatherloach currently occur. We are therefore asking anyone who has caught an Oriental Weatherloach or is aware of distributional information to contact **Wayne Koster** on phone: 03 9450 8732, or E-mail: Wayne.Koster@nre.vic.gov.au.

Peter Liston Returns to the CRCFE

Welcome back **Peter Liston**! Peter returned to work at the University of Canberra recently after a six-month adventure through Africa. He visited 17 countries, starting in London, then journeying on to the Sahara, West Africa and finally, East Africa. He saw two of Africa's major rivers, the Niger and the Nile. Being a dedicated aquatic scientist, he seized the opportunity for some involuntary oral sampling of the Nile waters while white-water rafting.

Peter is continuing his work on Program D projects, particularly project D200, Methods of River Health Assessment. He can be contacted on Ph: 02 6201 5373; Email: liston@lake.canberra.edu.au

Ian Lawrence Retires

Ian Lawrence retired from the CRCFE and Environment ACT at the end of April. Ian was seconded to the CRCFE to manage the urban water program when the CRCFE was established in 1993. During this period he has been an invaluable source of knowledge on all matters relating to urban stormwater design and catchment management. On behalf of all staff and students in the CRCFE, we extend to Ian the very best wishes on his retirement, and our thanks and appreciation for his professional leadership and generous support over the years.

Ian will continue to have some professional involvement with the CRCFE, interspersed with forays to the Australian Outback.

Richard Norris on Sabbatical

Richard Norris leaves on 20 May for a six month sabbatical in the United States and Canada. During this time he will work with Dr Robert Bailey at the University of Western Ontario and Charles Hawkins at the Utah State University. Richard is contactable via his normal email address and will return to Australia in December 2002.

Simon Linke, a Research Officer with the CRCFE and a former Honours student from the University of Western Onatrio, will be joining Richard to work with Dr Robert Bailey. Simon will then travel to the University of Michigan to complete a collaboration with David Allan. He leaves the CRCFE on 25th May and returns in August this year.

Update of the LWA Large Woody Debris Guidelines

Stuart Bunn and **Peter Cottingham** are coordinating a technical update of the Land & Water Australia large woody debris guidelines. The guidelines were prepared in 1998 as part of the National Riparian Lands Program (see www.rivers.gov.au) and have been very popular. This technical update will include new insights and information gleaned from research and management experience over the last 5 years. It will provide a framework, along with technical information, to guide managers who seek to reinstate Large Woody Debris to river and floodplain systems.

A workshop attended by key researchers and managers (including **Stuart Bunn**, **Sam Lake, John Koehn** and **Simon Nicol** from the CRCFE), was held on the 23rd April to consider the information that will form the basis of the update.

For further information, contact:

Stuart Bunn	(07) 3875 7407	S.Bunn@mailbox.gu.edu.au, or
Peter Cottingham	(03) 9235 7221	peter.c@enterprise.canberra.edu.au

Visit by Professor Jim Thorp

Professor Jim Thorp of Kansas University, one of the world's leading big-river ecologists will be in Australia for about three weeks, on a visit sponsored by the CRCFE. Jim will arrive in Adelaide on 26 June, meet with Keith Walker and others at CRCFE Adelaide and travel along the Murray to Mildura, meeting Ben Gawne, who will be host for a continued journey along the river to Albury. Jim will also visit Canberra (host Martin Thoms) and Brisbane (host Fran Sheldon) before returning home.

If you are interested in meeting Jim, or attending the seminar that he will give at each stop-over (subject to demand), please contact the relevant host for your area. Jim's main goals are a reconnaissance trip to meet with CRCFE staff and plan future collaborative research, and to participate in the review of the Lowland Rivers Integrated Project, to be held in Albury on 8-9 July.

For more information please contact Associate Professor Keith Walker Phone: 08 8303 5595, email: keith.walker@adelaide.edu.au

Wetland Ecology: Past, Present and the Future

On 8th to 11th May a conference was held at the Botanic Gardens in Sydney to celebrate 200 years of botany and ecology since Robert Brown was naturalist on Flinder's voyages around Australia. **Margaret Brock** presented a seminar titled "Wetland ecology: past, present and the future of aquatic plants and wetlands in the landscape." This talk will be repeated at UNE on Friday 17th May. The abstract from the talk is below.

Australian wetland plant communities are notably dynamic in space and time. Robert Brown was an early commentator on this, when in his diary for 1804 he commented on dry lagoons, and flood debris stranded far up riverbanks, along the Hunter River system. Such dynamism was a problem for early settlers, who set about altering wetland dynamics. Changing human perceptions of the values of wetlands thereafter accompanied (and were affected by) both natural variability in hydrology and human modification of the physical, chemical and biological nature of wetlands.

This paper explores how both perceptions of wetlands and the wetlands themselves have changed over the past two centuries. Our acquired knowledge of the responses of wetland plant communities to changes in water quantity and quality and in species composition, allows us to predict broadly what types of wetland plant communities we will have in the future. The paper discusses ways (ecological, managerial and legal) of maintaining mosaics of wetlands in the landscape as a way of conserving biodiversity and enhancing resilience of wetland systems.

For more information please contact Margaret on (02) 6773 5268.

NABS 2002

CRCFE researchers, **Richard Norris, Simon Linke, Wayne Robinson** and **Stuart Bunn**, together with Charles Hawkins (Utah) and Robert Bailey (Canada) will give a workshop on "Statistical methods in benthic biology" at the NABS conference in Pittsburgh, PA. The morning session will consist of four talks, two of which will deal with the CRC approaches. A practical afternoon session will be held on "Impairator" a program to simulate impact on benthic communities in order to test bioassessment methods ". Program developers Simon, Richard and Wayne will run the session. "Impairator" can be accessed at: (http://lake.canberra.edu.au/~impairator/). The conference will also be attended by **Claire Sellens, Jane Hughes** and staff and students from Stuart Bunn's group at Griffith University.

CRCFE Involvement in NCEAS Study

Professor **Sam Lake** and Dr **Shane Brooks** have been invited to participate in a project funded primarily by the US National Science Foundation, on the "Synthetic Analysis of the Scientific Basis of Ecological Restoration of Stream Ecosystems". Based largely on US case studies the project hopes to strengthen international coverage by the inclusion of the Australian researchers.

The NCEAS (National Centre for Ecological Analysis and Synthesis) will provide financial support for the US component of the study, while the CRCFE will fund at the rate of one day a week Dr. Shane Brooks to peruse and examine Australian stream restoration projects.
The project begins in June 2002 and finishes in late 2004 (subject to resolution at meeting in Pittsburgh in late May 2002).

Outputs for the CRCFE will be:

1. A final report on the stream restoration projects examined in Australia
2. In collaboration with Knowledge Brokers and funded by the KE Program, a small booklet will be produced on "Learning from Stream Restoration Projects". This publication will be designed for the stream restoration practitioner and will cover the functions of prior assessment, setting of targets, monitoring and evaluation.

For further information please contact Professor Sam Lake on 03 9905 5653 email: sam.lake@sci.monash.edu.au

From

Lynne Sealie

CONFERENCE UPDATE

ENVIRO 2002

Enviro2002, the largest environmental event of its type ever held in Australia, was held in Melbourne in mid April. During the four day event, 2650 delegates and over 1000 presenters from 75 countries attended workshops and sessions in the Melbourne Convention Centre and Melbourne Exhibition Centre. Participating organisations were the Australian Water Association (AWA), Waste Management Association of Australia, the Clean Air Society of Australia and New Zealand, Environment Business Australia. The International Water Association (IWA) joined the event, holding its 3rd World Water Congress attended by more than 1600 international delegates.

The environment industry includes anyone involved in the measurement, prevention, limitation, minimisation or remediation of air, water or soil, including problems related to waste, noise and ecosystems. Bringing together all areas of the environment industries, Enviro2002 addressed a broad range of technical engineering, applied research and case study reports. The conference was broken into four streams, with Water being by far the largest. The other streams were Business, Waste and Odour. The overriding theme of the conference appeared to be the topic of sustainability.

Many technical papers of narrow interest were presented, though most leaned towards integrated water resource management. Although limnological issues were rarely mentioned by speakers, a number of relevant poster papers were presented. Typically these were case studies of projects being undertaken by water management organisations eg. stream rehabilitation projects, phytoplankton removal. It was disappointing that relatively little light was shed on biological and ecological work being done by water management organisations. Understandably, Enviro2002 was not necessarily the forum for large scale discussion of ecological techniques, but the utility of biological research and applications would have made a welcome inclusion. Considering the importance of efficiencies in the water supply and waste treatment for the allocation of environmental flows, the presentation of case studies of ecological effects of water resource management practices would have been relevant to the sustainability theme.

Patrick Maiden

A POSTCARD FROM THE FREE MARKET

WANTED – "THE STONEFLY HUNTER"

A few weeks ago, I finally managed to catch The Crocodile Hunter on TV. After hearing so much about it (apparently it is very popular in the States and the guy – Steve Irwin I think his name is, but no-one ever uses it – he's just "The Crocodile Hunter"). Most of what I heard was bad. He's a jerk, he's an oaf, he's an embarrassment etc etc.

I didn't catch the start, but just flicked from another channel – probably an ABC documentary on economic reform in Uzbekistan, or one of those SBS Danish comedies (you know, the ones that warn you at the start that there will be Adult Themes, Violence, Horror, Sex References and Nudity – just in case you thought that it might not be worth watching). And there was this guy, kitted out in the Safari suit number, lying in the mud among some sort of tropical vegetation, whispering at the camera.

Oh, no, thinks me. He's just another one of those Attenborough types. All serious and informative. Just another wildlife documentary. They'll probably have some terrific footage of whatever he is trying to find, doing something it only does once every 10 years. These docos are fine, but for some reason, they are ultimately unsatisfying. Not sure why, but at the end of these traditional documentaries, I feel smugly informed, but often more interested in the filming technique than the subject (and hence there are spin-off shows about "the making of the series").

All went quiet for a few seconds. He'd obviously spotted his quarry. Time for the carefully controlled cut to the perfectly choreographed dancing brolga or endearingly ugly mating sea lions (all to the stirring tunes from Mantovani or Ravel – soon to be released on the CD accompanying the series that fits nicely into the back cover of the book of the series, that you can listen to and read while sipping from the coffee mug of the series ... of course).

And then the screen exploded. The Crocodile Hunter leapt up and crashed his way into the bush, oblivious of the 30 threatened plant species he just stepped on. With one last flying leap, he flung himself into what was obviously one of those thorn bushes and rolled into a mud puddle, clutching onto some wildly thrashing small animal.

Jeepers, what was that! Actually, it wasn't "Jeepers", but you get the idea.

And off he went. "Gaawd, will ya check a deck of this. It's a Two-spotted bug-eyed Chameleon. Very rare around here. Beewwdiful. They sit there, lookin' out for bugs to chomp on. Ya can't see em, 'cause the're too well camouflaged. Cop a butchers at the little fella. All smoooth 'n shiny, just like a ..... And 'is eyes can look backwards, checkin' out for things that are gunna munch 'im up. ..... aaaw, hang on a sec .....".

And with that, he dropped the two-spotted, bug-eyed thing and leapt on, back into another thorn bush. More rolling around, and up he popped. "Now this is really, really special .... it's a What-ever-it-is. Bewdiful plumage."

By this time, I was sitting well back in my chair, pretty well stunned. Phew. Yep, this guy's a dag. A cross between Attenborough, Eddie MacGuire and Harry Butler (there's a reference for some of the older members of the Society), but on a far more modern type of pharmaceutical.

But you know something. Behind the bluster and caricature, there was such an obvious passion for the subject that seems to be missing from a lot of wildlife documentaries. What he said was actually interesting (although sub-titles would have been good at times). And there were none of those interminably long drawn out slow motion shots used as filler, just leaping from one thing to another. Explaining things in a manner that people understand.

I must quietly confess that I was impressed. Now here is a way to get people interested. If we are to engage the public about limnological issues, maybe we should be taking a leaf out of the Crocodile Hunters approach. Maybe what we need is "The Stonefly Hunter", someone to take the message out into the public arena with a unique and passionate approach.

It should be easy. If we could only harness half of the energy displayed at some ASL Congress Dinners, we could open up a whole new front in public education. All we need now is a volunteer.

P.S. I haven't actually seen the show since. After all, how can anything compete with Adult Themes, Violence, Horror, Sex References and Nudity (now there's a thought for another ASL campaign).

Tim Doeg

INFORMATION FROM AND FOR MEMBERS

What is the NSW Biodiversity Research Network?

The NSW Biodiversity Research Network has been established to facilitate communication and cooperation among stakeholders in research on biodiversity in NSW. These stakeholders include government, private and community organisations, and individuals - both those who do the research, and those who use the research. Currently biodiversity research is coordinated to some extent within government agencies, but not across all research organisations. There is a need for more consultation among organisations before research programs are established, and for greater coordination of existing programs.

One of our goals is to identify gaps and priorities for biodiversity research in NSW, and to outline these in an upcoming website and NSW Biodiversity Research Strategy document. Our website will also summarise and link the research of relevant organisations, and thus serve as a central point of reference for biodiversity researchers and students in NSW. We also aim to form enduring links among people, by providing opportunities for communication, such as an electronic mailing list, newsletters, and meetings or mini-symposia. The outcomes will be increased awareness of biodiversity research priorities among stakeholders, better coordination of biodiversity research and funding bids across agencies, and an improved basis for biodiversity management and conservation in NSW.

The initiative for this Network arose out of the NSW Biodiversity Strategy (hard copy published by the National Parks and Wildlife Service, 1999; available online at http://www.npws.nsw.gov.au/services/index.html). The Network Steering Committee now holds regular meetings of interested agency and university partners. Current and past members of the Steering Committee include representatives from National Parks and Wildlife Service, the Australian Museum, the Royal Botanic Gardens Sydney, the University of Sydney, the University of Wollongong, Macquarie University, NSW Fisheries, the Department of Land and Water Conservation, CSIRO, the Zoological Parks Board, NSW Agriculture, and NSW State Forests.

If you would like to get involved, or receive further information, please contact:

Meri Peach, NSW Biodiversity Research Network Coordinator
Royal Botanic Gardens Sydney, Mrs Macquaries Road,
Sydney, NSW, 2000
Email: Meredith.Peach@rbgsyd.nsw.gov.au

~ ~ ~ ~~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

Asian Wetland Inventory

An ambitious program to develop and implement a multi-scalar approach for wetland inventory in Asia has been launched by Wetlands International with initial funding support from the Netherlands and Japanese Governments. The current phase of the project involves completing the manual which outlines the approach being advocated and developing demonstration studies in various countries and wetlands.

The approach builds on past analyses undertaken by Wetlands International that shows that globally we do not know how much wetland exists or what condition it is in. Further, many of the approaches being used provide incompatible or even incomparable data. And much data is outdated or not corroborated. These problems were embraced by the Ramsar Wetlands Convention which has endorsed the AWI and will present a resolution on wetland inventory at its Conference of Parties in Nov 02.

The approach being developed builds on a draft protocol for wetland inventory developed in Australia. It is based on the production of maps at four scales that contain differing amounts of detail with each level having a standardised core data set and data sheets. Further data categories and free text can be included as needed. The project and the manual alongwith a demonstration study from Hokkaido will be officially launched at the Ramsar Conference in November.

Max Finlayson, Coordinator Wetlands International's Wetland Inventory and Monitoring Specialist Group (WIMSG) maxf@eriss.erin.gov.au

~ ~ ~ ~~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

My name is Ashley Burns and I am currently working on the Western District Lakes Protection and Rehabilitation Program on behalf of Greening Australia Vic, Parks Vic and Corangamite CMA. I am in the process of finding out relevant organisations and university's that are currently working on, or have an interest in the nine lakes that form the Western District Lakes Ramsar Site. The nine lakes are Corangamite, Beeac, Bookaar, Murdeduke, Terangpom, Gnarpurt, Cundare, Colongulac and Milangil, with our major focus being erosion control trials, water fowl habitat protection and water quality through fencing, revegetation of salt marsh and education.

We are aware of some university students currently studying certain aspects of the Lakes, but do not have details on the studies being undertaken or contacts. If you, or someone you know, are involved with the above mentioned lakes please contact me via e-mail or phone as we would like to work-in conjunction with you on our proposed on-ground works for the next 3-5 years and further studies that may be required. Look forward to hearing from you soon.

Ashley Burns
Field Officer - Western District Lakes, Greening Australia Victoria
454 Murray Street, Colac
Phon: (03) 5231 6910; Mobile: 0427 501080
Email: ab.westernlakes@bigpond.com

~ ~ ~ ~~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

Millennium Ecosystem Assessment

This is an international program design to determine (based on the best available data) the conditions and trends of the world's ecosystems, responses and scenarios for the future. Three working groups have been established to undertake the assessment and report back within about three years. These working groups are currently drafting outlines for papers on agreed themes with an emphasis on the continuing ability of ecosystems to provide services. This has taken a lot of debate. Writing teams are currently being established - if interested have a look at www.millenniumassessment.org

I will coordinate a paper in the working groups looking at Conditions and Trends on 'inland waters' that will be closely linked with others on 'coastal systems', 'freshwater', 'food/fibre/fuel' and other important services. The papers illustrate the dual theme that has been adopted for this working group - two cuts with the first focussing on ecosystem services and the second focussing on ecosystems and the provision of services. There will be overlap between the papers but it is anticipated that this approach will appeal to a wider audience, noting that it is doubted that anyone will read the entire volume.

If you have any papers/reports on the condition and trends of inland waters and the services that they provide that you think may be useful, please forward them to me.

Max Finlayson, eriss, Locked Bag 2, Jabiru, NT 0886

PRELIMINARY NOTICE

Further information visit the web site:
http://powell.colgate.edu/wda/Australia/Home_page.htm

The 3rd Worldwide Dragonfly Association (WDA) International Symposium of Odonatology will be held in the historic town of Beechworth, Australia, **8-13 January 2003**. The organiser wishes to welcome all people with an interest in dragonflies, whether professionals or amateurs, collectors, photographers, or anyone with a general interest in nature and conservation. The symposium will be held at the historic May Day Hills Campus of La Trobe University which occupies a 106ha site of the old Mayday Hills Hospital, 1km from the town centre of Beechworth. The University has created a unique special educational environment amongst the heritage gardens and historical buildings. The campus accommodation ranges from International Hotel rooms, to Conference Hotel rooms, to shared cottages and backpack accommodation.

Beechworth is in north-eastern Victoria, between the two major Australian capital cities, Sydney (600km) and Melbourne (270km). Beechworth is nestled in the foothills of the Australian Alps, 30km south of Albury-Wodonga. It is one of the best preserved and most beautiful gold towns. It is now classified as a "Notable" heritage town with over 30 buildings on the National Trust's register, with many of the buildings dating back to the 1860's. It still retains the basic character and appearance it had developed by the 1880's. Presently, it has a population of 3,300 and has become a popular tourist town. There are many interesting attractions for tourists. The most notable are the fine government buildings built of local honey-coloured granite in the 1850's. The Beechworth Historical Park hosts spectacular scenery, flora and fauna and many historical reminders of the gold mining days.

There will be three field trips. **Field Trip 1** (8th January 2003) will be a sight-seeing and collecting bus tour of the Beechworth Historic Park in the morning, and in the afternoon visit Beechworth's most notable historic buildings. **Mid Symposium Field Trip** (11th January 2003) will follow the Kiewa River from its source in the beautiful Snow Gum ridges of the Bogong High Plains down to the lush farming valley where it joins the mighty River Murray. We will travel 100km, over an altitudinal decline of 1400m, and encounter some 25 species of dragonflies, which are ecologically partitioned along the river (as discussed in the plenary session). **Post Symposium Field Trip** (14th to 18th January 2003) will combine dragonfly collecting with visits to cultural and heritage sites, and the wilderness areas of several National Parks

John Hawking, MDFRC, Phone (02) 6058 2340, John.Hawking@csiro.au

Macquarie perch *Macquaria australasica*

Macquarie perch are found in the Murray-Darling Basin (particularly upstream reaches) and parts of south-eastern coastal NSW, including the Hawkesbury and Shoalhaven catchments. The conservation status of the different populations is not well known, but there have been long-term declines in their abundance.

Macquarie perch are listed as a **vulnerable species** in NSW. There are heavy penalties for harming, possessing, buying or selling them, or for harming their habitat.

As part of the recovery planning process for Macquarie perch, NSW Fisheries, with the help of the Australian Society for Fish Biology and the Australian Society for Limnology, is currently undertaking a comprehensive review to determine what is known of historical and current populations. A field sampling program will then be carried out targeting known and past populations to determine a current record of Macquarie perch populations in NSW. A detailed distribution and abundance database is being compiled incorporating records from government and non-government organisations, museums, NSW Fisheries commercial catches and stocking, and records and reports from angling clubs and the general public.

Any other information (i.e. when, where and how many captured or sighted, method of capture, etc.) concerning the distribution and abundance of Macquarie perch populations in NSW would be beneficial to this work and greatly appreciated.

For Further Information, Contact the Threatened Species Unit
Port Stephens Fisheries Centre
Private Bag 1, Nelson Bay, NSW 2315
Phone (02) 4982 1107
Or phone the Threatened Species Hotline on (02) 4916 3877

ADVANCES IN ALGOLOGY & AQUATIC BOTANY

17th ASPAB CONFERENCE 2002

First Circular

AUSTRALASIAN SOCIETY FOR PHYCOLOGY AND AQUATIC BOTANY (ASPAB)

October 1st – 4th 2002

Curtin University of Technology

Perth
Western Australia

Unfortunately due to a mixup in communication, ASL and ASPAB clash on the 2nd October. This is the only day when there are papers for both conferences. If you wish to attend both ASL and ASPAB, please indicate this on your registration or contact Dr Mark Lund at [m.lund@ecu.edu.au] It may be possible to organise early transport back up to Perth.

17th ASPAB CONFERENCE

Conference Secretariat

Chair:
Assoc. Prof. Jacob John
Department of Environmental Biology
Curtin University of Technology
GPO Box U1987 Perth WA 6845
Tel: 61 8 9266 7327/7368 Fax: 61 8 9266 2495
email: J.John@curtin.edu.au

Open to: Members and Non-members, Research students, Aquatic botanists, Water managers, Environmental officers, Environmental consultants, Wetland scientists, Marine scientists and all interested in Algae and Plants in all aquatic systems.

Website: http://envbio.curtin.edu.au/index.html (click ASPAB)

Venue
Curtin University of Technology, located 9km from the City of Perth.

Perth
The Capital of Western Australia is built around the Swan River estuary, just 12km from the Port of Fremantle. Perth is a modern city with excellent accommodation, well served by all major International and Domestic Airlines.

Date
October 1st to 4th. It is spring in Australia with an average temperature of 10–20°C and plenty of sunshine.

Accommodation
Excellent hotel accommodation available at a range of prices from A$75 per night (single/twin/double rooms close to the venue). *** to **** Hotels.

Main Theme
Advances in Algology & Aquatic Botany.

Scientific Programmes
Plenary talks, Symposia, general and poster sessions, workshops, video shows on all aspects of Aquatic Botany and Phycology. Special sessions on Algae and Wetlands, Salt Lakes, Water Quality, Biomonitoring, Impact of Industries and Mining on Biodiversity, Harmful Algal Blooms.

Mid-Conference Excursions
A Swan River Estuary and Vineyard Cruise.
B Wetlands of the Swan Coastal Plain (as many as 70 shallow wetlands within the metropolitan city of Perth).

17th ASPAB CONFERENCE
Pre Registration

Name:.....

Address:.....

Fax: .....

Phone:.....

Email: .....

I intend to present an ORAL POSTER paper

Title of Paper(s):
.....

.....

I suggest the following topics for
Symposia/Workshop:.....

.....

I wish to participate in the following excursion: A B

Hotel accommodation: I prefer Single Twin Double

I wish to attend the 4th Australian Algal Workshop to be held from Sept 28 – 30 at Curtin University Yes No

I wish to apply for a student subsidy Yes No

Any other suggestions:
.....

Please fill in the above form and forward to the Chair, **before 25th June 2002.** The second circular with programme details and **Final Registration Forms** will be forwarded by **28th June** to all those who respond to this form.

Jacob John, Chair – 17th ASPAB Conference 2002, Department of Environmental Biology, Curtin University of Technology, GPO Box U1987, Perth, 6845, WA, Australia.

OR

You may email the above details to the Chair **J.John@curtin.edu.au**

4TH AUSTRALIAN ALGAL WORKSHOP 2002

VENUE: Department of Environmental Biology
Curtin University of Technology
Perth

DATE: **Saturday 28th, Sunday 29th and Monday 30th September 2002**
9 am – 5 pm

CONTACT: **Associate Professor Jacob John**
Department of Environmental Biology
Curtin University of Technology
GPO Box U1987 Perth 6845 Western Australia

Phone: 61 8 9266 7327/7368
Fax: 61 8 9266 2495
Email: J.John@curtin.edu.au

The workshop will be conducted by experts in algal taxonomy.

Aim: The Algal Workshop is aimed at providing basic training in identification of common freshwater algae in Australia. The workshop provides 'hands-on' experience. Prior experience with algae will be helpful, but not essential. The workshop is most useful for technical staff and research students involved in limnology, water quality and water pollution studies wanting to extend their interest to algae.

Open to: Public health inspectors of local councils, Technicians and Rangers working for national parks, Department of Conservation and Land Management, Environmental officers involved in rehabilitation of wetlands, Technical staff of environmental protection agencies, Water Corporation, Aquaculture enterprises, Water and Rivers Commission, Private consultants involved in water quality assessments, Catchment management groups, Research students and Secondary school teachers etc.

Programme: September 28, 29, 30. 9 am – 5 pm. Lectures and Practicals. How to identify common freshwater algae with special emphasis on Blue Green Algae (Cyanobacteria), Green Algae and Diatoms. Collection & Preservation of Algae. Enumeration of phytoplankton, Photomicroscopy, Electron microscopy.

Printed notes and identification guides provided.

HOTEL ACCOMMODATION

I prefer: single twin double I do not need accommodation

I am interested in registering for the 4th Australian Algal Workshop

I intend to attend the 17th Australasian Society for Phycology and Aquatic Botany (ASPAB) Conference to be held at Curtin University on Oct. 1 – 4, 2002 following the Algal Workshop.

.....Yes No

My Address:

.....

.....

The final registration form will be forwarded to those who respond to this form.

Please fill in this form and forward to:
Associate Professor Jacob John
Department of Environmental Biology, Curtin University of Technology
GPO Box U1987 Perth 6845 Western Australia
Phone: 61 8 9266 7327/7368 Fax: 61 8 9266 2495
Email: J.John@curtin.edu.au

ORGANIC PHOSPHORUS 2003
Monte Verita, Ascona, Switzerland,
July 13-18, 2003

Scope of the workshop
Phosphorus is essential for life, yet is frequently the element that most limits biological productivity. Most organisms take up phosphorus as inorganic orthophosphate, but organic forms of phosphorus often dominate in soils and aquatic systems. Therefore, it is not surprising that many types of organisms possess complex mechanisms enabling them to access phosphorus from organic compounds. Understanding these mechanisms may provide answers to fundamental questions in agriculture as well as terrestrial and aquatic ecology; but organic phosphorus remains poorly understood and currently represents the greatest gap in our knowledge of the global phosphorus cycle. Information on organic phosphorus in the environment is dispersed across various disciplines, including chemistry, microbial ecology, agriculture and limnology. The aim of this workshop is to bring together scientists working in these fields to exchange ideas and knowledge concerning organic phosphorus characterisation and transformations in terrestrial and aquatic systems, and to evaluate future directions for research.

Topics and invited speakers:
The workshop will cover three broad topics:

Chemical characterisation of organic P in environmental samples, including separation techniques, 31P NMR and mass spectroscopy for determining organic P. Invited speakers include Ian McKelvie (Monash University, Australia), Barbara Cade-Menun (Stanford University, USA) and William Cooper (Florida State University, USA).

Processes controlling the dynamics of organic P in the environment, including the synthesis and utilisation of organic P by both terrestrial and aquatic bacteria and plants. Invited speakers include Hervé Quiquampoix (INRA, France), Astrid Oberson (ETHZ, Switzerland), Alan Richardson (CSIRO, Australia), Robert Heath (Kent State University, USA), Brian Whitton (University of Durham, UK) and Luisella Celi (University of Turin, Italy).

Integrating processes at the ecosystem level, including the importance of land use, transport and modelling of organic P in the environment. Invited speakers include Generose Nziguheba (ICRAF, Kenya), Leo Condron (Lincoln University, New Zealand), Alison Mitchell (CSIRO, Australia), William Parton (Colorado State University, USA) and Peter Reichert (EAWAG, Switzerland).

Call for papers and submission guidelines
A limited number of offered papers will be accepted for oral and poster presentation at the meeting. Please submit an abstract of less than 250 words (text only) to: monteverita.p.org@ipw.agrl.ethz.ch by **31 December 2002.**

Registration fee and accommodation
The workshop registration fee is SFr 300 - (~205€/190US$), which includes the price of the post-workshop hard-cover book. Accommodation costs for the 5-days are SFr 1000 - (~680€/640US$), which includes food and lodging.
The number of delegates is limited, so early registration is advised.
See the Workshop website http://www.nwisrl.ars.usda.gov/OrganicP2003/ for further details on how to register.

Timetable

Deadline for Abstracts:	December 31 2002
Acceptance notification:	January 30 2003
Registration deadline:	March 30 2003

Further Information
If you would like further information on the workshop, or would like to be placed on the workshop contact list please:

email: monteverita.p.org@ipw.agrl.ethz.ch
visit the web site at http://www.nwisrl.ars.usda.gov/OrganicP2003/
or contact the organisers:

Emmanuel Frossard, Institute of Plant Sciences, Switzerland
emmanuel.frossard@ipw.agrl.ethz.ch

Ben Turner, USDA–ARS, Northwest Irrigation and Soils Research Lab, USA
bturner@nwisrl.ars.usda.gov

Darren Baldwin, Murray-Darling Freshwater Research Centre., Australia
darren.baldwin@csiro.au

FASTS

MEDIA RELEASE 8 MARCH 2002

Stem Cell Decision "Imminent"

Australia's science community is waiting apprehensively for the Government to make a decision on the future of stem cell research.

A decision on whether promising lines of investigation into stem cell therapies for diseases such as Parkinson's Disease, spinal damage, liver disease, renal failure and diabetes is expected imminently, with the well-being of thousands of Australians in the balance.

Professor Chris Fell, President of the Federation of Australian Scientific and Technological Societies (FASTS), has written to leading Cabinet Ministers urging them to resist threats to impose blanket restrictions on this work in Australia.

"Australian scientists are world-leaders in this research," he said. "We have as a nation invested heavily in finding solutions to a range of diseases, and it would be a human tragedy to many Australians if promising lines of investigation were to be curtailed."

Dr Peter French, secretary of FASTS, said work was being carried out in universities, research centres and laboratories across the country.

"The total number of scientists directly involved in embryonic stem cell research in Australia is difficult to estimate, but would be between one and two hundred," Dr French said. "Two to three times that number are likely to be involved in collaborative work.

"It is difficult to put a precise number on the total workforce because of the rapid growth taking place in this field."

Dr French said that this is an area where Australia has a proven capability. "We are in fact a world leader. As a result, Australia is drawing investment dollars and venture capital money from US and Singapore, with a lot of other countries showing interest. "This is driving the development of a biotechnology industry with support for both basic research and commercialisation.

"It's the sort of development that is squarely in line with the Government's recent initiatives in science and technology, in the Innovation Statement of last year and the recently-announced research priority areas."

"To place restrictions on the work now would be a step backwards, and likely to force leading researchers and Australian companies working in this area to move their operations to countries where the environment for this sort of research and commercialisation is more favourable."

The full text of the letter is available from the FASTS' office, on (02) 6257 2891.

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

MEDIA RELEASE 4 APRIL 2002

Forum on Science and Maths Education

The keynote speaker at the FASTS' Forum this year is Brendan Nelson, Minister for Education, Science and Training.

The Forum will be held at the National Press Club in Canberra on Wednesday 8 May 2002.

Professor Chris Fell, President of FASTS, said the theme of the Forum is "Science and mathematics education: across the spectrum."

"We believe that the whole education sector is hungry for action, and will listen with great interest to the Minister's address at the National Press Club."

"Minister Nelson has signalled quite clearly in public statements and in conversations with FASTS that he intends to be an education innovator."

On a recent 'Sunday Program', the Minister said he plans to develop a package of higher education policy proposals for consideration by the Government in early 2003.

Professor Fell said that Australia's education system was riding on the memory of past successes, but it could be world-class again.

"Our education should compare favourably with the best. This is particularly so in science and mathematics, because these subjects are the drivers of new industries and new jobs, and provide solutions to national environmental issues."

Professor Fell said connectivity and relevance were key issues.

"Are we equipping young people with the right skills for the workforce or for the next generation of scientists and innovators? What role does the TAFE/VET sector play?"

The Forum will run from 9 am, to allow leaders from industry and education to put forward their solutions to education issues. They have been asked to identify the skills Australians need to succeed in industry and as the next generation of scientists and innovators.

Registration for the Forum is available from the FASTS' web site: www.fasts.org

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

MEDIA RELEASE 30 APRIL 2002

Education Debate "Hotting Up"

The education debate is hotting up, with new Minister Brendan Nelson announcing his Higher Education Review.

Newly-appointed members of the Review Reference Group will be at the FASTS' Forum at the National Press Club on May 8.

The Group includes FASTS' President Chris Fell, but controversially omits any representatives of staff or student associations.

Can Australia seize this chance to repair our education system? Industry, university and education speakers give their views, as well as Education and Science Minister Dr Brendan Nelson.

The Forum runs from 9 am to 3.30 pm on Wednesday May 8. Register now at: www.fasts.org

"We believe that the whole education sector is hungry for action, and will listen with great interest to the Minister's address at the National Press Club." (Professor Chris Fell).

Program

9.00am Welcome, Professor Chris Fell, President of FASTS

9.15am Professor Ian Rae, Chair, Technical Director, Australian Academy of Technological Sciences and Engineering

9.50am Mr Steve Balzary, Director of Employment and Training, Australian Chamber of Commerce and Industry

10.50am Professor Tim Brown, Dean, Faculty of Science, ANU

12.00 Lunch, followed by the National Press Club address
Hon Dr Brendan Nelson MP. Minister for Education, Science and Training
"Science education across the spectrum"

2.15pm Comments on the Minister's speech:

1. Professor Iain McCalman, President, Australian Academy for the Humanities
2. Ms Leisa Ridges, President, CAPA
3. Professor Tony Moon, Chair, ACDS Working Group on Science Teacher Education
4. Ms Kathy Rankin, Education and Training Adviser, Australian Business Ltd

3.30pm Close

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

CIRCULAR FROM FASTS APRIL 2002

In Summary

1. BRENDAN NELSON AT THE NATIONAL PRESS CLUB
2. MINISTER'S NEW SCIENCE ADVISER
3. DR BARLOW'S REQUEST
4. WORKSHOPS FOR MEMBER SOCIETIES
5. THERAPEUTIC GOODS COMMITTEE
6. NEW PARLIAMENTARY COMMITTEE FOR SCIENCE
7. SCIENCE MEETS PARLIAMENT DAY
8. OCCASIONAL PAPERS

1. BRENDAN NELSON AT THE NATIONAL PRESS CLUB

Australia has a once-in-a-decade opportunity to look at the broad sweep of education across the nation. The argument had become bogged down, but new leaders at a Ministerial and Departmental level have opened these debates right up.

The FASTS' Forum "Science and mathematics education: Across the spectrum" is most timely. Education has been continually in the news headlines since the election, and this major address is an opportunity for the Minister to unfold his plans for reform and revitalisation.

I said in our media release announcing the Forum:

"We believe that the whole education sector is hungry for action, and will listen with great interest to the Minister's address at the National Press Club.

"Minister Nelson has signalled quite clearly in public statements and in conversations with FASTS that he intends to be an education innovator."

The Minister's address will be complemented by speakers from industry and education, speaking on broad issues such as:

Are we equipping young people with the right skills for the workforce or for the next generation of scientists and innovators?

Are we equipping young people with the skills to become well-informed citizens?

What role is there for Vocational Education and Training in this?

Speakers include:

Mr Steve Balzary, Australian Chamber of Commerce and Industry
Professor Bob Breakspear, Academy of Technological Sciences and Engineering
Professor Iain McCalman, President of the Australian Academy of the Humanities
Ms Kathy Rankin, Australian Business Limited
Ms Leisa Ridges, President, Council of Australian Postgraduate Associations
Professor Tony Moon, Chair, ACDS Education Project

Registration is open on the FASTS' web site: www.fasts.org

The FASTS' office is mailing to all Member Societies a brochure with further details.

2. MINISTER'S NEW SCIENCE ADVISER

Dr Thomas Barlow is Brendan Nelson's impressive new science adviser. He is a chemist (USyd and Oxford) and experience at MIT. Freelance journalist for London Financial Times immediately prior to appointment.

He will be based in Dr Nelson's Sydney office, and will assist with science inputs to Ministers Nelson and McGauran.

3. DR BARLOW'S REQUEST

"I want to have on hand a file on key successes in Australian (especially university) research conducted over the past 5 years. Can you therefore perhaps ask your member organisations to send me reprints of what they might consider the most interesting or influential research produced by their members over this time?"

Could you please consider this request within your Society, and then send on to him the most outstanding papers within your sector? These could either go to FASTS, or directly to Dr Barlow at:

Office of Dr Brendan Nelson MP
Suite 8, 12-16 Tryon Rd, LINDFIELD NSW 2070

4. WORKSHOPS FOR MEMBER SOCIETIES

Early this year, FASTS approached Science Minister Peter McGauran with a proposal to run workshops around Australia to assist our Members to manage their affairs.

The workshops would deal with a set of practical problems which confront all professional or learned Societies. Our Presidents nominated some of these issues last year:

1. Delivering benefits to members
2. Finding, motivating and coordinating a volunteer workforce
3. Finding and working with professional help - the role of the executive officer
4. Communicating with members, including finding what members want
5. Influencing policy and raising the profile (including use of media)
6. Effective use of databases and accounting packages

I am delighted to say that arrangements for these workshops are nearly complete, and I want to acknowledge the support of Peter McGauran in breathing life into the proposal.

We will be in touch with you shortly about the content and schedule of these workshops.

5. THERAPEUTIC GOODS COMMITTEE

The TGA has asked us to nominate people to join an expert committee to advise the Minister on standards for the labelling, handling and packaging of therapeutic goods.

Appropriate people would have expertise in microbiology, virology, biomedical engineering, biomaterials, pharmaceutical science etc.

A copy of the letter and details of the Committee are available from the FASTS' office. Our response must be submitted by May 2.

6. NEW PARLIAMENTARY COMMITTEE FOR SCIENCE

From a media release by Peter McGauran
"Science is set to feature in a new Parliamentary committee, announced today by the Howard Government.

"Federal Science Minister Peter McGauran has welcomed the formation of the House of Representatives Standing Committee on 'Science and Innovation'.

"A dedicated Science and Innovation Committee has been championed by the Federation of Australian and Scientific Technological Societies and I congratulate FASTS on its advocacy which has resulted in this important initiative," Mr. McGauran said.

"The committee's work will expand the Parliament's knowledge and support for research and development."

The new Committee will be chaired by the Liberal MP Gary Nairn. FASTS has been asked to suggest items the new Committee may consider.

7. SCIENCE MEETS PARLIAMENT DAY

This year SmP will be on Tuesday-Wednesday November 13-14. We will provide further details in the next month or so.

8. OCCASIONAL PAPERS

Occasional Paper No 4 on the state of parasitology in Australia continues to echo in Government circles. Minister Peter McGauran will address the Parasitology Society's annual conference in Hobart later this year, and government departments are continuing to work out how they can best respond to the issues the paper raised.

If your Society would like to discuss how it could be involved in raising issues through publishing an Occasional Paper in this series, please contact the FASTS' Office.

Chris Fell, President, 20 April 2002
Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

MEDIA RELEASE 8 MAY 2002

Ten Year Plan for Education

Australia's peak council for science and technology today (Wednesday) called for a ten year plan to develop and improve the national education system.

Professor Chris Fell, President of the Federation of Australian Scientific and Technological Societies (FASTS) made the call in his opening address at an education forum at the National Press Club in Canberra.

Professor Fell said that science, research and innovation were inextricably locked together with the education system at school, university and TAFE.

"Any shortcomings in our investment in these areas will be visited on the next generation of Australians," he said. "They will suffer declining job opportunities, a poorer environment, and the cultural impoverishment that comes from a reduced emphasis in education."

He said Australia needs enough trained scientists and mathematicians to support an innovation-led economy. This has to be coupled with a general population able to appreciate science and to debate the ways science should be harnessed to the community's benefit.

Professor Fell welcomed the reformist path being blazed by Minister Brendan Nelson, and the discussion he had opened up on the higher education sector.

"We need to make fundamental decisions about our national future, and education is one of the key long-term components. Australia needs a debate - and then we need a ten year plan to improve our educational systems."

He warned that any solution would require significant new national investment.

"The truth is that Australia is finding it harder and harder to retain its home-grown talent and attract world class researchers from overseas," he said.

Professor Fell pointed to a new study by Professor Graeme Hugo of the University of Adelaide, which showed that half of the Australians working overseas had no intention of returning.

These expatriates referred to better employment opportunities, professional development and higher pay as the attractions of living and working overseas.

"Science is an international activity, but it points to something wrong if half our most talented citizens would rather live overseas," Professor Fell said. "Our education and research facilities need to be top-class if we are to remain competitive."

Media are invited to attend the Forum at the National Press Club, from 9 am to 3.30 pm and including Brendan Nelson's luncheon address. Full program is at: www.fasts.org

For interview: Professor Chris Fell 0438 274 962
Information: Toss Gascoigne 0408 704 442

MEDIA RELEASE 14 MAY 2002

SCIENCE AND THE BUDGET: RELIEF

Australia's peak council for scientists and technologists expressed disappointment that the Budget carries no additional investment for science and technology.

Professor Chris Fell, President of FASTS, said he had mixed feelings about the Budget. "I'm disappointed that Australia's national investment will continue to languish below OECD levels, but relieved that the funding provisions announced in last year's "Backing Australia's Ability" (BAA) are coming through on time. "Australia would be better served in 2002 by a greater investment in science and the jobs of the future, than in building up a $2 billion Budget surplus."

Professor Fell said he had written to the Prime Minister last month to ask what plans the Government has for the next stage of re-energising Australia's science and research.

"Our view is that Australia should set itself a national goal to reach the OECD average expenditure on science and research by 2011, ten years after the launch of BAA," he said.

"I'm concerned that that some elements in Government may regard science and technology as a 'done deal' with the announcement of "Backing Australia's Ability" in January 2001.

"But we're not even half way to reaching international standards. The funding announced in BAA was a down-payment, the first stage of hauling Australia's investment in science and research back up to average OECD levels.

"We all welcomed BAA 16 months ago as a promising first step. Now it's time for the second step, so we can get the catch-up process on track."

Professor Fell said even the Government recognised the job was not complete. The Daily Telegraph carried the following story on 5 May 2001, three months after the launch of BAA:

The Federal Government had by no means completed the job of investing in science and innovation, Prime Minister John Howard said.

"I would be the last to assert [the innovation statement] has completed the job," he said.

"The science community, and industry, and anyone interested in the industries of the future is anxiously awaiting the Government's plans for the next stage of BAA," he said.

The sector estimated it would take an increased national investment of $13 billion over a five year period to bring Australia's spending on R&D into line with that of other OECD nations. Professor Fell said this figure had not been challenged.

"It is important to recognise that this is not just a Federal Government responsibility. Almost half the additional investment should come from State governments and industry," he said.

For interview: **Professor Chris Fell** (02) 4360 1920; 0438 274 962
Information: **Toss Gascoigne** (02) 6257 2891; 0408 704 442

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

ARTICLE FOR "CAMPUS REVIEW", RELEASED 21 MAY 2002 PREPARED BY PROFESSOR CHRIS FELL, PRESIDENT, FASTS

"I had mixed feelings about the Federal Budget as it was announced by Treasurer Costello last week. Our media release on the Budget was headed: "Science and the Budget: relief." We were disappointed that Australia's national investment will continue to languish below OECD levels, but relieved that the funding provisions announced in last year's "Backing Australia's Ability" statement (BAA) are coming through on time. The overall BAA package is worth just under $3 billion over 5 years, and the instalment due for 2002-02 is $403 million. That will be delivered as promised. So why the disappointment?

The BAA funding is nowhere near enough to get Australia (up to average OECD investment in this area. Australia is well behind the countries with which we normally like to compare ourselves, the Japans, USA, the advanced economies of Asia and Europe. Their investment in science and research is well ahead of Australia's and climbing steadily; Australia was catching up quickly until 1996, but has fallen markedly away since then.

The sector estimated it would take an increased national investment of $13 billion over a five-year period to bring Australia's spending on R&D into line with that of other OECD nations. This figure first appeared in a talk by Gavin Brown, then President of the Group of Eight, and the graph illustrating his point is on the Go8 website (http://www.Go8.edu.au/media/image2001.04.11c.html) It has never been challenged.

2001 looked as though it was going to be a good year for Science. In response to the Chief Scientist's report "*A Chance to Change*" and the outcomes of the Innovations Summit, the Government in January released its *Backing Australia's Ability* initiative with a $2.9 billion increase. This was warmly welcomed by the scientific community, *as a promising first step*. As the year progressed and the election loomed, the hoped-for bidding war between the Coalition and the Opposition to demonstrate which was providing the greater stimulus for science and innovation was pushed to one side by more prosaic matters.

Research released by a Swiss institute on international competitiveness revealed that Australia lies in the bottom half of 49 advanced countries in terms of public and private sector investment in R&D and in the willingness of Australia's young to contemplate a career in science.

There were reports from the UK and Canada of significant increases in government spending on science; and our Asian competitors emerged from the bleakness of the Asian meltdown to put forward initiatives to encourage significant R&D efforts to locate in their respective countries. But within Australia the news was bleak. A round of company takeovers during 2001 meant that Australian scientific R&D was being exiled to Head Offices in Pretoria, London and France. Those seeking venture capital found the climate chilly, with investors burnt by the tech-wreck and institutions keen to ally themselves with the continuing property boom rather than investing in new technology.

In light of these factors, it is FASTS' view that Australia would be better served in 2002 by a greater investment in science and the jobs of the future, than in building up the $2 billion Budget surplus the Treasurer projected for 2002-03 in his Budget speech. There ARE occasions when one borrows to make a wise investment and this is one of them. Not many of us, for instance, pay cash for a house. The same applies for Government. A judicious investment in science, research and education would pay off handsomely in the long-term.

Any shortcomings in our investment in these areas will be visited on the next generation of Australians. They will suffer declining job opportunities, a poorer environment, and the cultural impoverishment that comes from a reduced emphasis in education.

Australia needs enough trained scientists and mathematicians to support an innovation-led economy. This has to be coupled with a general population able to appreciate science and to debate the ways science should be harnessed to the community's benefit. FASTS is concerned about the status of Australia's scientists and the rewards that they attract. An economy based on innovation will only happen if the best and brightest are attracted to science and see their role as scientists as making a major contribution to national development.

FASTS sees much merit in the *Science Meets Parliament* initiative which is now in its fourth year of operation, and we are planning to expand the activity this year to include a Canberra dinner with industry participants to round out the event. This event has prompted a greater awareness of Parliamentarians in the value of investing in science and research. The dates have been set - November 12-13.

Despite the arguments in favour of a literate community confident in handling science and technology, the Budget was generally silent in the area of education. This can partly - but only partly - be explained by processes the Ministers for Education and Science, Brendan Nelson and Peter McGauran have in place. They have shown a refreshing willingness to look at all aspects of science and education, and are looking at research priorities and reviewing (again!) the university sector.

Action is in the pipeline, and the sector would have good reason to be disappointed if these matters were not addressed in the next Budget. FASTS has recommended that Australia should develop a ten-year plan to improve the national education system. We need to take the broadest look at this position, as science, research and innovation are inextricably locked together with the education system at school, university and TAFE.

This includes taking a fresh look at funding for the arts, social sciences and humanities. While FASTS speaks for scientists and technologists, we are sympathetic to our colleagues in these disciplines. It is in these areas where the funding has lagging even further behind, with only limited access to the new monies from the BAA statement.

There is a whole raft of social issues surrounding the application of science and technology, and a functioning society requires a balance between the sciences and the arts.

Without a long-term broad-scale strategy to redress education and research issues, Australia will it harder and harder to retain its home-grown talent and attract world class researchers from overseas. A new study by Professor Graeme Hugo of the University of Adelaide shows that half the Australians working overseas had no intention of returning.

They prefer the better employment opportunities, professional development and higher pay on offer overseas. Australia has to get serious about its science, research and education systems, and to look beyond the normal politician's time horizon of ten years."

Professor Chris Fell
President, FASTS

ARTICLES

Murray-Darling Basin Leadership Program

The MDBC invite people who want to develop an understanding of integrated catchment management in the Murray-Darling Basin. The Program is designed for those passionate about the Basin and who want to develop their understanding and skills to protect its environmental, economic and social assets. Each Program will be made up of about 15 participants drawn from diverse sectors within the Basin community and Basin governments.

The Program is an initiative of the Murray-Darling Basin Ministerial Council and the Community Advisory Committee.

Further details are on the MDBC home page: http://www.mdbc.gov.au or contact
Catherine Atkinson ~ Phone (02) 6279 0141 or Fax (02) 6248 8053.

Back To The Drawing Board

The Murray-Darling Basin Ministerial Council has postponed a decision on environmental flows in the Murray River and seems no closer to agreeing on action to rehabilitate environmental flows than it was at its last meeting in March 2001.

At its meeting in Corowa, the Ministerial Council commissioned a further study into the impacts of various environmental flow scenarios and approved, in principle, a $157 million, seven-year program of "structural and operational changes and investigations" aimed at making best use of the existing flow of the River Murray.

The Council agreed to a `Community Engagement Strategy' which will seek community feedback on a range of options for environmental flows and indicated a `desire' for a final decision to be made on environmental flows by October 2003.

An audit presented to the Council on compliance with the Cap during the 2000-01 season indicated that New South Wales had exceeded its long-term diversion Cap - with over-consumption occurring particularly in the Namoi and Barwon/Darling/Lower Darling valleys and to a lesser extent in the Lachlan valley.

COAG Defers Water Rights Issue

Despite election promises made by the Deputy Prime Minister, John Anderson, that an `early' COAG meeting would be held with the aim of forcing the States to accept the principle of compensation for water property rights, the recent meeting of the Council of Australian Governments (COAG) only resulted in an agreement that states and territories would report back by September on what they are doing about the issue.

The COAG communique announced that the reports would address opportunities and impediments to better define and implement water property rights regimes (including water trading markets and where appropriate the responsibilities of water users); and how they are addressing uncertainties.

The Council noted that while `substantial progress' was being made on the national water reforms, water management was currently in a transition phase as jurisdictions implement new water allocation arrangements.

NHT2 Arrangements Announced

Federal Environment Minister, Dr David Kemp, and Minister for Agriculture. Fisheries and Forestry, Warren Truss, have announced details of arrangements for the change-over to the second phase of the Natural Heritage Trust, due to start on July 1 this year.

The new arrangements include a transition period to enable the continued employment of 650 full-time equivalent facilitators and coordinators during 2002- 03

The future of Landcare and other NRM workers employed under the NHT has been uncertain, with current funding due to end in September. The Ministers said that the coordinators and facilitators positions will play a key role in assisting communities to move towards regional natural resource management. States and territories will be invited to submit proposals for Landcare and other support positions, and facilitator positions for programs such as Coastcare, Bushcare and Waterwatch will continue until at least June 2003.

The Government has also announced the formation of a $20 million Envirofund which creates a relatively small pool of funds for competitive bids of up to $30,000 from community groups, reflecting the move away from funding a large number of small projects and towards the more integrated approach of supporting natural resource management plans prepared by regional community groups for accreditation by state/territory governments.

Farm Dams Legislation Passed

The Farm Dams legislation has been passed through the Victorian Legislative Council more than seven months after it was introduced, and in the face of continuing opposition from some sections of the farming community.

Under the legislation, all new irrigation and commercial dams will have to be licensed and farmers with existing irrigation and commercial dams will have the choice of registering the dam or obtaining a standard tradeable water licence.

Farmers in catchments where the Murray-Darling Basin Cap applies will be required to purchase a water entitlement before building a new irrigation dam. The Government has developed a transitional package to provide funding assistance to those affected by the legislation.

Funds For Salinity And Water Quality Slashed

The Federal Government has backed away from its commitment to the National Action Plan on Salinity and Water Quality, cutting expenditure over the next three years by $114 million, and underspending this year's allocation of $65 million by $34.4 million. The allocation for 2002-03 to the NAP has been reduced from last year's forward estimate of $150 million to $100 million.

The NAP was one of several areas of environmental spending to feel the knife in this year's Federal budget, following a year in which budgetary allocations in a number of areas were significantly underspent.

Changes in the distribution of funding under the Natural Heritage Trust have seen the allocation for biodiversity fall from $150 million last year (of which only $83 million was spent) to $70.8 million. Funding allocations from last year for the Cape York Peninsula - $15.1 million in 2001-02 and a projected $9.2 million for 2002- 03 - do not appear in the Budget statement.

NHT2 programs have been allocated a total of $250 million for 2002-03, including: Bushcare ($70.2 million); Coastcare ($38 million); Landcare ($70.4 million); Rivercare ($65.5 million); Air Pollution in Major Cities ($4.4 million); and Waste Management Awareness ($1.5 million).

COMMONWEALTH BACKS DOWN ON NHT MATCHING FUNDS

The threatened stalemate between the Commonwealth and state/territory governments over funding arrangements for the second stage of the Natural Heritage Trust has been avoided following agreement at the second meeting of the Natural Resource Management Ministerial Council, held in Hobart.

Ministers agreed that in-kind contributions from state and territory governments would be accepted as matching payment for NHT funds.

The Federal Government has backed away from its original requirement that NHT2 funding would be contingent upon matching cash contributions from state/territory governments, and has agreed that contributions, either in cash or in kind, could be provided by local government, industry and community groups, as well as by the state governments, as was the case under NHT Phase One.

The NRM Council endorsed a strategic framework for the delivery of the NHT (including funding arrangements) and the next stage will be the negotiation between the Commonwealth and each of the state/territory governments of bilateral agreements covering delivery of NHT2, which is due to commence in July.

LWA LOOKS TO THE FUTURE

Land & Water Australia is considering establishing a new 'Futures Arena' which will use scenario planning tools to understand the likely future of Australian landscapes and to assist in current investment decisions, as well as modelling 'desired' futures, so as to identify gaps between current farming systems and other land uses and sustainable land uses of the future.

An initial investment plan for the proposed Futures Arena will be presented to the LWA Board at its next meeting in June. LWA currently has five R&D Arenas - sustainable primary industries, rivers, vegetation, future landscapes and cross cutting activities - which integrate the 20 or so R&D programs which it funds.

NATIONAL SALINITY PRIZE GOES TO WA

The inaugural $30,000 National Salinity Prize established by the Institution of Engineers Australia has been awarded to Western Australia's Lake Toolibin Salinity Management System. The award recognises a new technology or other practical outcome to address the major problem of salinity in rural and urban Australia.

Toolibin Lake, 50km east of Narrogin, is one of the most important wetland systems in the Wheatbelt. It is on the Ramsar Convention List of Wetlands of International Importance and provides habitat for up to 42 waterbird species.

The National Salinity Prize is sponsored by the Institution of Engineers Australia, the National Action Plan for Salinity and Water Quality and the Murray-Darling Basin Commission, and this year attracted 32 entries.

MORE PROTECTION FOR FISH IN THE LOWER MURRAY RIVER CATCHMENT – SUBMISSIONS INVITED

The community is being invited to comment on possible changes to recreational fishing rules in the Lower Murray River catchment. These changes include proposals to ban setlines, zero bag limits for freshwater catfish and river blackfish. It also proposes that bag limits for the Murray crayfish, which is unique to the Murray and Murrumbidgee Rivers, be reduced from ten to five per day and limiting crayfish greater than 12cm in size to one per angler.

These changes aim to ensure the long term survival of local aquatic populations through sustainable fishing practices.

The proposals are available on the NSW Fisheries website at http://www.fisheries.nsw.gov.au or by calling Kathy Heffernan on (02) 6041 6918. A series of community meetings are also planned to discuss these proposals, details of which are available on the website.

Submissions are encouraged and are due on 28 June 2002.

Information update on the daughterless carp technology from the MDBC

As part of its carp control measures in the Murray Darling Basin, the Murray Darling Basin Commission has provided $2.9 million over three years to CSIRO Marine Science researchers to further develop and test the 'daughterless' carp technology.

It is thought that this technology will be effective in the long term when implemented with other carp control measures.

For more information, visit the MDBC website at http://ww.mdbc.gov.au/whatson/carpinfo.htm

MURRAY DARLING REFLECTIONS

A celebration by ABC Radio & ABC Online focusing on the past, present and future of the Basin. It is now 100 years since a community meeting in Cowra where the idea of A Royal Commission, the predecessor of the Murray Darling Basin Commission, was formed. ABC Radio and ABC Online are marking the centenary with a collection of stories called Murray Darling Reflections. It celebrates the past, present and future of the Basin. For more information, visit http://www.abc.net.au/rural/mdbc/default.htm.

QLD GOVERNMENT INCREASES CAPACITY TO PROSECUTE FOR ILLEGAL CLEARING The Queensland government has increased its capacity to investigate and prosecute cases of illegal clearing. This is in response to there being only 12 prosecutions of illegal clearing in the last 12 months despite there being 418 notifications of illegal tree clearing during this time.

NEW ACF HEALTHY RIVERS CAMPAIGN COORDINATOR APPOINTED

Jen Guice is the new Healthy Rivers Campaign Cooridinator for the Australian Conservation Foundation. Jen replaces Dr Stuart Blanche, who has moved to the NSW National Parks Service. Guice spent the last three yeas with the NSW Conservation Council and can be contacted on 0413 119 697.

INTERNATIONAL MEETING OF WATER PROFESSIONALS IN STOCKHOLM IN AUGUST 2002

The Consortium for Dialogue on Water, Food and Environment, involving eight leading international groups such as the World Conservation Union and the World Water Council, and the Water Associations Worldwide, comprised of 10 professional water societies such as the Australian Water Association and the European Water Association, are meeting in Stockholm, from August 12 to 18, 2002. Stockholm will serve as the meeting point for approximately 1,000 leading water experts who will gather for the 2002 Stockholm Water Symposium and World Water Week in Stockholm. The issues that are being addressed are often those that have "fallen between the cracks" until Stockholm provided the framework where the issues could be discussed holistically.

BOOK REVIEW

Groundwater Ecology: A Tool for the Management of Water Resources, 2001, Edited by C. Griebler, D.L. Danielopol, J. Gibert, H.P. Nachtnebel & J. Notenboom, Published by Office for Official Publications of the European Communities, Luxembourg, ISBN 92-894-1639-4, Cost: EUR 62 (excl. VAT).

The publication of the book "Groundwater Ecology" in 1994 marked a turning point in this burgeoning discipline because it integrated studies of groundwater ecology ranging from karstic systems to alluvial aquifers and synthesized an immense amount of information from across the world, especially Europe – arguably the birthplace of the discipline. The best part of a decade has elapsed since then while pure and applied research on many aspects of groundwater ecology has intensified. For example, the integration of hydrology and ecology at the surface-subsurface interface in rivers has generated new insights into how rivers function and how subsurface outputs influence surface water processes (e.g., Jones & Mulholland 2000). In Australia, groundwater management plans are actively being developed in most States and there has been widespread recognition of the links between groundwater and surface ecosystems (e.g., groundwater dependent ecosystems, Hatton & Evans 1998, Clifton & Evans 2001).

Thus, the publication of "Groundwater Ecology: A Tool for the Management of Water Resources" is a timely one because it updates much of the seminal work presented in "Groundwater Ecology" but also emphasizes the growing management significance of this research. The book arose from the development of an Advanced Study Course in Groundwater Ecology, sponsored by the European Commission, and organized in Austria. When the course was developed, limited to 30 participants, the organizers received 104 applications from 38 countries!

The first section of the book contains the primary lecture material presented by world experts and the chapters span basic attributes of groundwater ecosystems (Gibert), geochemistry and hydrology (Hoehn, Nachtnebel), and microbiology (Griebler, Alfreider) to groundwater monitoring (Moesslacher, Malard) and management (Dreher & Gunatilaka, Fürst, Nachtnebel, Notenboom, Fornés & Llamas, Schiemer). Not surprisingly, there is a strong emphasis on European literature which is valuable because of the longer history of groundwater use in Europe as well as the synthesis of original research works that readers in the Southern Hemisphere might find difficult to access. I found these sections to be logically presented and usefully peppered with diagrams. As a tyro to microbial ecology, I found the chapter by Griebler especially interesting and welcomed the summary table of sampling methods assessing their pros and cons. There is also an excellent section titled 'ecosystem studies' that provide insightful updates on the classic work by Danielopol's group on the alluvial aquifer of the Danube that has been studied for over two decades. This aquifer is used for drinking water extraction and nature conservation, providing the archetype model for management of potentially conflicting uses. The reflections on future directions in groundwater management of this resource are applicable far beyond the Danube, and lead nicely into the next sections on groundwater management and monitoring.

As I read these sections, I realized how much Australian groundwater managers and scientists could build on lessons learned from the European experience. Although there are localized issues of groundwater contamination in many Australian cities and towns, their severity is perhaps not at the scale as that of large European cities such as Vienna and Lyon. Yet these towns rely almost exclusively on groundwater and have invested massive amounts of money into infrastructure and monitoring networks to provide early warnings of groundwater pollution.

Similarly, the groundwater levels near many of these European cities are influenced by the hydrological repercussions of hydropower plants or floodplain pumping, and a variety of engineering solutions has been trialed with varying degrees of success.

Before completing the book with four brief guides to the excursions undertaken during the Advanced Course, there is a section of 12 eclectic 'short contributions' written by the participants. I found these quite fascinating because they covered a range of aspects of groundwater ecology from surface-subsurface hydrological interactions in arid and semiarid areas (Spain) to estimations of groundwater recharge on the Channel Island of Jersey. The quality of the contributions is patchy but this does not detract from their intrinsic interest.

This is a book for the specialist but before you get put off by the 'Advanced Course' epithet, be reassured that the lecture material is presented with such clear and logical introductions, it should be easy to follow. The emphasis is European with the allied strengths of results and models from some long-term studies (e.g., the Danube aquifer), exposure to literature not readily accessible in Australia, and a longer history of intensive groundwater exploitation from which we can learn. As Australian water resource use turns more to groundwater, we must accelerate our understanding of the ecology of "...the world's greatest treasure, and also the most delicate, so pure, deep within the earth..." as Antoine de Saint-Exupéry epitomized it in his 1939 novel "Terre des Hommes". Drawing on the wealth of European experience encapsulated in this book will certainly do that.

References:

Clifton, C. and Evans, R. 2001. A framework to assess the environmental water requirements of groundwater dependent ecosystems. *In* I. Rutherfurd, F. Sheldon, G. Brierley & C. Kenyon (Eds) "Third Australian Stream Management Conference", pp. 259-264, CRC for Catchment Hydrology, Melbourne.

Gibert, J., Danielopol, D.A. and Stanford, J.A. (Eds) 1994. "Groundwater Ecology", Academic Press, San Diego.

Hatton, T. and Evans, R. 1998. "Dependence of Ecosystems on Groundwater and its Significance to Australia." LWRRDC Occ. Pap. 12/98, Land and Water Resources Research and Development Corporation, Canberra.

Jones, J. and Mulholland, P. (Eds) 2000. "Streams and Ground Waters", Academic Press, New York.

Andrew Boulton
April 2002

FORTHCOMING CONFERENCES/WORKSHOPS

OVERSEAS

2002

4th International Poster Session Conference on **Aquatic Ecosystems and Organisms**, to be held on 19 June in Moscow. Email: dpage@polar.bowdoin.edu or check out the web site at: http://www.bowdoin.edu/dept/chem/dpage.html

2nd International Conference **New Trends in Water and Environmental Engineering for Safety and Life: Eco-Compatible Solutions for Aquatic Environments**, Capri (Italy), 24 to 28 June. Additional information about the Conference, topics, modalities and registration on-line can be found at the web page: www.capri2002.com

18th International Congress on Irrigation and Drainage, Montreal (Canada), 21 to 28 July, Special Seminar on Malaria in Irrigated Agriculture. For more information contact Eline Boelee (workshop coordinator) Email: e.boelee@cgiar.org

International Peat Society Symposium "Peatland Ecology and Efficient Peat Use", Russia, Tomsk, 21 to 25 August. Register to the Symposium Chairman, via E-mail: krutikov@iom.tsc.ru

11th International European Weed Research Society Symposium on Aquatic Weeds: http://alpha.bordeaux.cemagref.fr/qebx/ewrs2002. This symposium will take place in France in September.

The New Zealand Limnological Society LIMSOC meets on the Wild West Coast - Shantytown, Greymouth in early November. See web page for further details: http://www.rsnz.govt.nz/clan/limsoc/

The 7th International Conference on Public Communication of Science and Technology (PCST) will be held in Cape town, South Africa from 4 to 7 December. "Science Communication in a Diverse World" is the theme, exploring innovative approaches in the public communication of science and technology. Science communication within different cultures and multi-cultural societies will be a central theme. See web page for further information: www.fest.org.za/pcst.html

2003

The 2nd Large Rivers Symposium is to be held in Phnom Penh, Kingdom of Cambodia from 11 to 14 February. The web site is at: lars2.org

3rd World Water Forum. 16 to 23 March at The Kyoto International Conference Hall, Kyoto, Japan. See: http://www.worldwaterforum.org/eng/index.html

Organic Phosphorus 2003. 13 to 18 July to be held at Mont Verita, Ascona, Switzerland. See the Workshop website http://www.nwisrl.ars.usda.gov/OrganicP2003/ for details on how to register. Further information from Dr Darren Baldwin (Darren.Baldwin@csiro.au).

The 17th Biennial Conference of the Estuarine Research Federation (ERF) will be held September 14-18, 2003, at the University of Washington in Seattle, Washington. The conference's theme is Estuaries on the Edge: Convergence of Ocean, Land, and Culture. For more information about ERF, please contact Joy Bartholomew at jbarth@erf.org or visit their web site: www.erf.org

2004

29th International Association of Theoretical and Applied Limnology 8 to 14 August. (SIL): Lahti, Finland. Website: sil2004@latkk.helsinki.fi

AUSTRALIAN

2002

The 5th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences (**Accuracy 2002**) is to be held at Rydges Carlton Hotel, 701 Swanston Street, Carlton (Vic) from 10 to 12 July. All enquiries to The Conference Organiser, Accuracy 2002 Symposium, PO Box 214, East Brunswick, Victoria 3057, E-mail: conorg@ozemail.com.au
The Australasian Society for Ecotoxicology is convening a one-day workshop on **Multivariate Statistical Analysis**, in association with the Interact Conference at the University of Technology, Sydney, on the 21 July 2002.

Adaptive Management in Australian catchments: learning from experience, a workshop associated with Fenner 2002 with special guest Dr George Stankley, USDA FS, will be held at Lake Hume Resort, Albury, NSW 24 to 25. July. For registration to the workshop, please contact: Catherine Allan, Charles Sturt University on phone (02) 6051 9781.

The Australian Academy of Sciences' Fenner Conference on the Environment will be held at the Rydges Hotel, Canberra from 30 July to 1 August. The conference theme is: 'Agriculture for the Australian Environment'. Details can be found at: http://life.csu.edu.au/fenner/ or contact the Conference Secretariat, Conference Solutions on (02) 6285 3000.

Environment Institute of Australia National Conference 2002, 31st July to 3rd August, Sheraton Brisbane Hotel & Towers. For more information about this event and further sponsorship and trade exhibition opportunities available, visit www.eia.asn.au/conference or contact Organisers Australia on (07) 3369 7866, email emma@orgaus.com.au.

"Rural Land-Use-Change - Yes! - But Will Biodiversity Be Ok?" 12 to 13 August, Airport Motel and Convention Centre, Melbourne email Quentin.Farmar-Bowers@nre.vic.gov.au or Phone (03) 9412 4190.

World Congress on Aquatic Protected Areas 2002: What works best and how do we know? The inaugural World Congress on Aquatic Protected Areas will be held in conjunction with the 31st Annual Conference of the Australian Society for Fish Biology. This important event will be held 14 to 17 August in Cairns, Queensland, Australia. Further information from OzAccom Conference Services, PO Box 164, Fortitude Valley QLD 4006, Email: apa2002@ozaccom.com.au
Website: www.ozaccom.com.au/apa2002

5th World Acid Sulfate Soils Conference Sustainable management of acid sulfate soils, to be held from 25 to 30 August, at the Twin Towns Services Club and Resort, Tweed Heads New South Wales, see Website: http://www.out.at/acidsoil

Riversymposium 2002 - Fifth International River Management Symposium 3 to 6 September, at the Brisbane Convention and Exhibition Centre. The Theme for 2002 is "The Scarcity of Water - The Future of Rivers, The Future of Water". Online registration is available at www.riverfestival.com.au. . The Water Sensitive Urban Design Conference, 2nd Australian Weirs Workshop and International Transfer of River Basin Development Experience: Australia and the Mekong Region Workshop are being run in the same week in cooperation with Riversymposium.

Australian Entomological Society 33rd AGM & Scientific Conference, to be held in Fremantle, Western Australia from 22 to 27 September. Further information visit the web at http://aes33rdagm.tripod.com/index.htm

41st Annual Australian Society for Limnology Congress, to be held in Margaret River, Western Australia from 29 September to 3 October. Further information visit the web at: http://www.asl.org.au/ Congress Announcements.

The Rosenburg International Forum on Water Policy will be held in Canberra from 7 to 11 October. This major forum will focus on innovations in the management of water resources - internationally. It will focus on water policy issues of global significance that relate to the themes of improving water policy, reducing water-related conflicts, and enhancing the environment and economic growth.

Prospects for Biodiversity & Rivers in Salinising Landscapes. To be held in Albany, Western Australia, from 20 to 25 October. For further information email Marcus Blacklow, Conference Chairman on (08) 9386 4897 or email: mblacklo@agric.uwa.edu.au or Fax (08) 9380 1140. Sponsored by the CRC for Plant-Based Management of Dryland Salinity. Visit the website at http://www.biodiversityconference.albany.uwa.edu.au for details on the Conference and registration details.

2003

Worldwide Dragonfly Association (WDA) 3rd International Symposium of Odonatology, to be held at La Trobe University Beechworth, Victoria, from 7 to 13 January. For further information contact the Symposium Convenor: John Hawking (John.Hawking@csiro.au) or see the preliminary notice on the web page at: http://powell.colgate.edu/wda/Australia/Home_page.htm

Australian Water Association (AWA) 20th Ozwater Convention & Exhibition *Innovations in Water*. To be held at the Burswood Resort, Perth, Western Australia, from 6 to 10 April. For further information email quitz@bigpond.com.au (Quitz Event Management), or phone (02) 9410 1302.

The 9th International Symposium on Regulated Streams - is being organised and sponsored by the CRCFE. The conference will be held 6 to 11 July, with the venue to be Echuca-Moama.

Joint 42nd Annual Australian Society for Limnology Congress and The New Zealand Limnological Soceity, to be held in Warrnambool, Victoria from 1 to 5 December. Further information from Belinda Robson (brobson@deakin.edu.au), Phone (03) 5563 3330 or Fax (03) 5563 3462.

ASL VOLUNTEERS

The following members have volunteered to speak as experts on behalf of the ASL.

If you wish to be included on the list or amend your contact details, please contact:

Dr Richard Marchant (ASL Secretary)
Email: rmarch@mov.vic.gov.au

Prof Angela Arthington:
in stream flows, ecology of exotic fishes, conservation of rare fishes.
Centre for Catchment & In-Stream Research, Griffith University, Natham Qld. 4111.
Phone (07) 3875 7403, Fax (07) 3875 7615, email: a.arthington@mailbox.gu.edu.au

A/Prof Paul Boon:
bacteriological issues, wetlands.
Environmental Management, Victoria University of Tech., PO Box 14428 MMC, Vic. 3000.
Phone (03) 9365 2214, Fax (03) 9365 2465, email: paul.boon@vu.edu.au

Dr Andrew Boulton:
intermittent streams, hyporheic zones, Flinders Ranges.
Department of Ecosystem Management, University of New England, Armidale, NSW 2351.
Phone (02) 6773 3760, Fax (02) 6773 2769, email: aboulton@metz.une.edu.au

Dr Margaret Brock:
temporary wetlands, aquatic plants.
Centre for Natural Resources, DLWC, PO Box U245, UNE, Armidale, NSW 2351.
Phone (02) 6773 5268, Fax (02) 6773 5288, email: mbrock@dlwc.nsw.gov.au

Prof. Stuart Bunn:
stream ecology, ecology of riparian zones, biomonitoring.
Faculty of Environmental Sciences, Griffith University, Nathan, Qld. 4111.
Phone (07) 3875 7407, Fax (07) 3875 7615, email: S.Bunn@mailbox.gu.edu.au

A/Prof. Jenny Davis:
wetland and stream ecology, ecology of central Australian waterbodies.
School of Environmental Sciences, Murdoch University, Murdoch WA 6150.
Phone (08) 9360 2939, Fax (08) 9310 4997, email: davis@essun1.murdoch.edu.au

Dr Michael Douglas:
tropical freshwater ecology, intermittent streams, tropical floodplains.
School of Biological and Environmental Sciences, Northern Territory University, Darwin, NT 0909.
Phone (08) 8946 7261, Fax (08) 8946 6847, email: michael.douglas@ntu.edu.au

Dr Tim Entwisle:
taxonomy and ecology of freshwater macroalgae.
Acting Director & Chief Executive, Royal Botanic Gardens Sydney, Mrs Macquaries Road, Sydney NSW 2000.
Phone (02) 9231 8113, Fax (02) 9251 4403, email: tim.entwisle@rbgsyd.nsw.gov.au

Dr Max Finlayson:
wetlands, Ramsar convention.
Supervising Scientist Group, ERISS, Locked Bag 2, Jabiru, NT 0886.
Phone (08) 8979 9756, Fax (08) 8979 2449, email: maxf@eriss.erin.gov.au

Dr Mike Grace:
nutrient cycling and biogeochemical processes.
CRC for Freshwater Ecology/Water Studies Centre, Chemistry Department, PO Box 18, Monash University, Clayton Vic. 3800.
Phone (03) 9905 4078, Fax (03) 9905 4196, email: Michael.R.Grace@sci.monash.edu.au

Dr Tom Grant:
platypus biology.
Biological Science, University of NSW, PO Box 502, Cronulla NSW 2230.
Phone (02) 9527 2862, Fax (02) 9527 2862, email: t.grant@unsw.edu.au

A/Prof Margaret Greenway:
Constructed wetlands, Melaleuca wetlands, biogeochemical processes.
School of Environmental Engineering, Faculty of Environmental Engineering, Griffith University Nathan Qld 4111.
Phone (07) 3875 7486, Fax (07) 3875 7404, email: m.greenway@mailbox.gu.edu.au

Dr Mark Harvey:
watermites.
Department of Terrestrial Invertebrates, Western Australian Museum, Francis Street, Perth WA 6000.
Phone (08) 9427 2737, Fax (08) 9427 2882, email: mark.harvey@museum.wa.gov.au

Mr Kent Hortle:
impact of mining, impact of development in SE Asia and PNG on rivers.
EMA Pty Ltd, 11 Gallus Close, Vermont Vic. 3133.
Phone and Fax: (03) 9873 5887, email: kent_hortle@bigpond.com

A/Prof Pierre Horwitz:
conservation of freshwater invertebrates.
Centre for Ecosystem Management, Edith Cowan University, Joondalup Drive, Joondalup WA 6027.
Phone (08) 9400 5558, Fax (08) 9400 5070, email: p.horwitz@cowan.edu.au

Dr Paul Humphries:
fish ecology, in-stream flows.
CRC for Freshwater Ecology, MDFRC, PO Box 921, Albury NSW 2640.
Phone (02) 6058 2317, Fax (02) 6043 1626, email: Paul.Humphries@csiro.au

Prof. Gary Jones:
cyanobacterial blooms.
CRC for Freshwater Ecology, Building 15, University of Canberra ACT 2601.
Phone (02) 6201 5168, Fax (02) 6201 5038 email: gjones@enterprise.canberra.edu.au

Prof. P. Sam Lake:
stream ecology, conservation of freshwater biota.
Department of Biological Sciences, PO Box 18, Monash University, Clayton Vic. 3800.
Phone (03) 9905 5653, Fax (03) 9905 5613, email: sam.lake@sci.monash.edu.au

Dr Vladmir Matveev:
plankton food webs, biomanipulation.
CSIRO Land and Water, 80 Meiers Road, Indooroopilly Qld 4068.
Phone (07) 3214 2755, Fax (07) 3214 2881, email: Vladimir.Matveev@.csiro.au

Dr Kerri Muller:
constructed wetlands, wetlands of the lower Murray.
River Murray Catchment Water Management Board, 1 Colman Terrace, Strathalbyn SA 5255.
Phone (08) 8536 8125, Fax (08) 8536 8126, email: kerri_muller@triplei.net.au

Dr Richard Pearson:
tropical freshwater ecology.
School of Tropical Biology, James Cook University, Townsville Qld. 4811.
Phone (07) 4781 5466, Fax: (07) 4781 5511, email: richard.pearson@jcu.edu.au

Dr Winston Ponder:
taxonomy, biogeography and biology of freshwater mollusca.
Invertebrate Zoology, Australian Museum, 6 College Street, Sydney NSW 2010.
Phone (02) 9320 6120, Fax (02) 9320 6050, email: winstonp@amsg.austmus.gov.au

Dr Jim Puckridge:
ecology of arid zone rivers, ecology of freshwater fish.
Department of Environmental Biology, University of Adelaide, Adelaide SA 5005.
Phone (08) 8303 5689, Fax (08) 8303 4364, email: jim.puckridge@adelaide.edu.au

Dr Melody Serena:
platypus ecology and conservation.
Australian Platypus Conservancy, PO Box 84, Whittlesea Vic. 3757.
Phone (03) 9716 1626, Fax (03) 9716 1664, email: platypus@vicnet.net.au

Dr Russ Shiel:
planktonic and littoral microfauna, billabong ecology.
Visiting Research Fellow, Department of Environmental Biology, University of Adelaide SA 5005.
Phone (08) 8303 5294, Fax (08) 8303 6222, email: russell.shiel@adelaide.edu.au

Dr Brian Timms:
lake geomorphology, coastal dune lakes, arid zone wetlands.
Department of Geography and Environmental Science, University of Newcastle, Callaghan NSW 2308.
Phone (02) 4921 5080, Fax (02) 4921 5877, email: ggbvt@cc.newcastle.edu.au

Dr Lloyd Townley:
groundwater-surface water interaction.
Townley & Associates Pty Ltd, PO Box 425, Claremont WA 6910.
Phone (08) 9389 6377, Fax (08) 9389 6477, email: LTownley@Townley.com.au

A/Prof Keith F. Walker:
Murray-Darling basin rivers.
Department of Environmental Biology, University of Adelaide, Adelaide SA 5005.
Phone (08) 8303 5595, Fax: (08) 8303 4364, email: keith.walker@adelaide.edu.au

ASL MEMBERSHIP FORM

Fill out the form below and send onto the Treasurer/Membership Officer (address below), or alternatively go to the ASL website (http://www.asl.org.au/asl_member.htm), follow the link to 'Membership application via the web'. Fill in the details on the form, including credit card details, and submit. ASL is not registered for GST, therefore ASL does not charge GST.

MEMBERSHIP FORM

Surname:.....

Given Name: .....

Title: .....

Position: .....

Department: .....

Organisation: .....

Address: .....

.....

.....

Postcode: .....

Telephone: .....Fax: .....

Email:.....

Qualifications:.....

Membership: Member: ( ), Student Member: ( ), 10 Year Member: ( )

Limnological interests: .....

Student declaration

I am a full time student at.....

Signed .....

Student status confirmed by Supervisor.....

Signed ..... Date.....

Australian Society for Limnology Inc, ABN 54 606 483 226

Membership Rates for 2001/2002

Member:	$ 40.00
Student Member:	$ 20.00
Ten Year Member:	$350.00

Method of payment : Cheque ( ) Money Order ( ) Credit Card ( )

Please Debit my:

Bankcard ( ) Visa card ( ) MasterCard ( )

Card number _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Amount $..... Expiry Date .....

Name of card holder .....

Signature .....

Please Return to:

Margaret Hart
Treasurer/Membership Officer
PO Box 605
Mulgrave VIC 3170

Fax (03) 9545 3549

ELECTRONIC NEWSLETTER APPLICATION FORM

If you are a member of the ASL and want to receive your newsletter electronically, then please fill in the form below. Members who do not want to receive an electronic version, and would rather still receive the paper version will continue to do so, but you are encouraged to also fill in and send the form below (we do not have plans to phase out the paper version).

I am a member of the ASL and my name is:.....

My email address is: .....

I would like to receive the ASL newsletter emailed in

- Rich Text Format (.rtf)[1] - Word compatible ☐
- In Portable Document Format (.pdf)[2] - Adobe Acrobat compatible ☐
- In another format (please state which other format you would like to receive the ASL newsletter in).

.....

[1] Rich Text Format (.rtf) is a format that can be opened in any word processor, although slight variations in layout may occur in different programs.

[2] Portable Document Format (.pdf) is a format that looks and prints exactly as the publisher intended. It can be opened using Adobe Acrobat viewer which is free and can be downloaded from their website.

Please Return to:

Margaret Hart
Treasurer/Membership Officer
PO Box 605
Mulgrave VIC 3170

Fax (03) 9545 3549

REGIONAL EXECUTIVE MEMBERS 2001-2002

State	Name	Email	Phone	Fax
NSW	Jane Growns	grownsj@fisheries.nsw.gov.au	02 6772 2980	
	Deb Nias	dnias@dlwc.nsw.gov.au	02 6023 1822	02 6041 4223
Qld	Jon Marshall	marshallj@dnr.qld.gov.au	07 3848 1504	07 3848 5191
SA	Paul McEvoy	Paul.McEvoy@sawater.gov.au	08 8259 0336	08 8259 0228
WA	Megan McGuire	mcguire@essun1.murdoch.edu.au	08 9360 6298	08 9310 4997
NT	Naomi Rea	Naomi.Rea@nt.gov.au	08 8999 3467	08 8999 4445
VIC	Mike Shirley	mshirley@skm.com.au	03 9248 3246	03 9248 3364
Tas	John Gooderham	flatworm@ozemail.com.au	03 9888 2915	
Web master	Simon Josey	webmaster@asl.org.au	02 6270 7665	02 6270 7696

EDITORIAL ADDRESS

Ms Rhonda Sinclair
The Murray-Darling Freshwater Research Centre
CRC for Freshwater Ecology
CSIRO Land and Water
PO Box 921
ALBURY NSW 2640

Phone (02) 6058 2331
Fax (02) 6043 1626
Email Rhonda.Sinclair@csiro.au

Australian Society for Limnology email list ~

List functions: email ASL-help@asl.org.au

Website: http://www.asl.org.au

If undelivered please return to:

Australian Society for Limnology
PO Box 605
MULGRAVE VIC 3170

SURFACE MAIL

POSTAGE PAID AUSTRALIA

Print Post Approved
PP 381667/00125

Have you changed address?

MRS/DR/MR/PROF/MS/OTHER:.....
FIRST NAME:.....
SURNAME:.....
POSITION:.....
COMPANY:.....
NEW ADDRESS:.....
SUBURB:.....STATE:..... P/CODE:.....
PHONE: WORK ( )..... FAX ( ).....
EMAIL: .....

PLEASE POST TO THE ADDRESS ABOVE

Dr R. Marchant
Invertebrate Survey
Museum of Victoria
GPO Box 666E
Melbourne
VIC 3001